

Bendix® Antilock Braking Systems and Traction Control

Bendix ABS Sensors

For Bendix EC-30 ABS
see pages 13-SENS-1 to 13-SENS-3

Gen 4 and Gen 5 ABS
see page 13-SENS-4

Bendix ABS and Traction Control for Power Vehicles

For Bendix EC-30 ABS
see pages 13-PWR-1 to 13-PWR-15

Gen 4 and Gen 5 ABS
see pages 13-PWR-16 to 13-PWR-25



(formerly marketed under the Eaton® brand name)

Bendix ABS for Trailers

For Bendix EC-30 ABS
see pages 13-TLR-1 to 13-TLR-13

Gen 4 and Gen 5 ABS
see pages 13-TLR-14 to 13-TLR-20



(formerly marketed under the Eaton® brand name)

Includes part number to page number index



	Catalog Page Title	Page
Speed Sensors	WS-20 Changeover	13-SENS-1
	WS-20 Speed Sensors	13-SENS-2,3
	Gen 4 and Gen 5 Speed Sensors	13-SENS-4
Power Vehicle Components and Systems	EC-17 to EC-30 Changeover	13-PWR-3
	EC-30 Controller	13-PWR-4
	AR-1 Antilock Relay	13-PWR-6
	AR-2 Antilock Relay	13-PWR-8
	ATR-1 Antilock Traction Relay	13-PWR-10
	ATR-2 Antilock Traction Relay	13-PWR-12
	M-21 Modulator	13-PWR-14
	M-30 Modulator	13-PWR-15
	Gen 4 and 5 Truck/Bus/Coach Cab-Mount ECUs	13-PWR-16
	Gen 4 and 5 Truck/Bus/Coach Frame-Mount ECUs	13-PWR-17
	Gen 4 and 5 Truck/Tractor ABS Modulator Valves	13-PWR-18
	Gen 4 and 5 Truck/Bus/Coach Traction Control Valves, Relay Valves	13-PWR-19
	Gen 4 and 5 Truck/Bus/Coach Rear Axle Valve Assemblies	13-PWR-20
	Gen 4 and 5 Spring Brake Control Valves	13-PWR-21
	Gen 4 and 5 Extension Harnesses	13-PWR-22
	Gen 4 and 5 Tractor/Truck Wiring Harness Accessories	13-PWR-23
	Gen 4 and 5 Electronically-Controlled Brake System Components	13-PWR-25
Trailer Components and Systems	MC-12 Modulator Controller	13-TLR-2
	MCE-12 Modulator Controller	13-TLR-3
	EC-12 to EC-30 Controller	13-TLR-4
	M-12 Modulator	13-TLR-5
	ME-12 Modulator	13-TLR-6
	MC-12 to EC-30 Trailer Conversion Kits	13-TLR-7
	MCE-12 to EC-30 Dolly Conversion Kits	13-TLR-8
	MC-30 Modulator Controller	13-TLR-9
	MC-30 Modulator Controller & EC-30 Trailer Controller	13-TLR-10
	M-30T Trailer Modulator	13-TLR-11
	Gen 4 and 5 Trailer MC-30 Pigtail Cable Assembly	13-TLR-12
	Gen 4 and 5 Diagnostic Cable Extension	13-TLR-13
	Gen 4 and 5 Trailer ECUs (Basic) & Trailer ABS Hardware (Basic)	13-TLR-14
	Gen 4 and 5 Trailer ABS (Basic)	13-TLR-15
	Gen 4 and 5 Trailer ECUs (Standard) & Trailer ABS (Standard)	13-TLR-16
	Gen 4 and 5 Trailer ABS (Standard) Hardware	13-TLR-17
	Gen 4 and 5 Trailer Modulator Relay Valves (without ECU)	13-TLR-18
	Gen 4 and 5 Spring Brake Control Valves, Trailer Diagnostic Labels	13-TLR-19
	Gen 4 and 5 Extension Harnesses	13-TLR-20

ABS Designations

ABS systems are designated by the format "XS-YM" where X is the number of sensors in the system and Y is the number of modulators. There are always an even number of sensors, but depending on the installation, individual modulators may control more than one wheel. Example: A 6S-4M system has 6 sensors and 4 modulator valves.

Part #	Page	Part #	Page	Part #	Page	Part #	Page	Part #	Page
65000		65530	13-TLR-2	300096	13-TLR-20,	300233	13-TLR-17	300343	13-PWR-17
65279	13-SENS-1,	65531	13-TLR-5		13-PWR-22	300239	13-PWR-16	300344	13-PWR-16
	13-SENS-2	65539	13-PWR-12	300097	13-TLR-20,	300240	13-PWR-23	300345	13-PWR-17
65280	13-SENS-1,	65639	13-TLR-3		13-PWR-22	300241	13-PWR-23	300346	13-TLR-17
	13-SENS-2	65640	13-SENS-1,	300098	13-TLR-20,	300242	13-PWR-23	300347	13-TLR-17
65281	13-TLR-2		13-SENS-2		13-PWR-22	300244	13-TLR-17	300348	13-TLR-17
65282	13-TLR-5	65644	13-TLR-6	300099	13-TLR-20,	300245	13-TLR-17	300349	13-TLR-17
65297	13-TLR-3	65659	13-SENS-1,		13-PWR-22	300246	13-TLR-17	300354	13-PWR-19
65301	13-SENS-1,		13-SENS-2	300100	13-TLR-20,	300247	13-TLR-17	300357	13-TLR-15
	13-SENS-3	65663	13-PWR-12		13-PWR-22	300248	13-PWR-18	300358	13-TLR-15
65310	13-SENS-1,	65703	13-SENS-1	300101	13-TLR-20,	300251	13-TLR-19,	300359	13-TLR-15
	13-SENS-3	65704	13-SENS-1		13-PWR-22		13-PWR-21	300360	13-TLR-15
65323	13-SENS-1,	65705	13-SENS-1	300113	13-TLR-20,	300252	13-TLR-19,	300361	13-TLR-16
	13-SENS-3	65711	13-SENS-1,		13-PWR-22		13-PWR-21	300362	13-TLR-16
65324	13-SENS-1,		13-SENS-2	300122	13-SENS-4	300253	13-TLR-14	300363	13-TLR-16
	13-SENS-3	102000		300125	13-PWR-16	300254	13-TLR-17	300364	13-TLR-16
65325	13-SENS-1,	102802	13-PWR-6	300126	13-PWR-16	300255	13-TLR-17	300365	13-PWR-16
	13-SENS-3	106000		300127	13-PWR-18	300256	13-TLR-17	300366	13-PWR-16
65327	13-PWR-6			300128	13-PWR-19	300257	13-TLR-20,	300367	13-PWR-17
65330	13-PWR-8	106932		300130	13-PWR-17		13-PWR-22	300368	13-PWR-17
65337	13-PWR-14	108000		300132	13-PWR-19	300258	13-TLR-20,	300374	13-TLR-17
65346	13-TLR-5			300134	13-PWR-20		13-PWR-22	300381	13-TLR-19
65357	13-SENS-1,			300144	13-PWR-16	300259	13-TLR-20,	300384	13-TLR-20,
	13-SENS-2	108472	13-PWR-6	300148	13-PWR-20		13-PWR-22		13-PWR-22
65360	13-PWR-6	108473	13-PWR-6	300149	13-PWR-17	300260	13-TLR-20,	300385	13-TLR-20,
65362	13-SENS-1,	108520	13-PWR-8	300150	13-SENS-4		13-PWR-22		13-PWR-22
	13-SENS-3	108575	13-PWR-14	300151	13-SENS-4	300262	13-TLR-14	300386	13-PWR-18
65363	13-SENS-1,	108638	13-PWR-6	300153	13-PWR-20	300263	13-TLR-14	300387	13-PWR-18
	13-SENS-2	108909	13-PWR-8	300158	13-PWR-25	300264	13-TLR-14	300388	13-PWR-23
65364	13-PWR-8	108910	13-PWR-6	300159	13-PWR-25	300265	13-TLR-14	300390	13-PWR-24
65366	13-TLR-2			300160	13-PWR-25	300266	13-TLR-15	300394	13-PWR-24
65367	13-TLR-5	109000		300161	13-PWR-25	300267	13-TLR-15	300395	13-PWR-24
65368	13-SENS-1,			300162	13-PWR-25	300268	13-TLR-15	300396	13-PWR-23
	13-SENS-3	109350	13-PWR-6	300171	13-SENS-4	300269	13-TLR-15	300397	13-PWR-24
65392	13-TLR-5	109359	13-PWR-8	300182	13-PWR-24	300270	13-TLR-14	300405	13-TLR-14
65396	13-TLR-3	109365	13-PWR-6	300183	13-TLR-16	300271	13-TLR-14,	300406	13-TLR-15
65404	13-PWR-6	109366	13-PWR-8	300192	13-TLR-18		13-PWR-17	300410	13-PWR-16
65412	13-PWR-14	109368	13-PWR-6	300193	13-TLR-18	300275	13-TLR-19		
65414	13-SENS-1,	109438	13-PWR-12	300199	13-PWR-17	300280	13-PWR-18	550000	
	13-SENS-3	109810	13-PWR-12	300200	13-PWR-20	300281	13-TLR-14	550285	13-SENS-1
65422	13-TLR-3	109931	13-PWR-8	300201	13-PWR-20	300282	13-TLR-17	550286	13-SENS-1
65444	13-TLR-3	300000		300202	13-PWR-20	300297	13-TLR-17	550289	13-TLR-2
65447	13-TLR-2			300203	13-PWR-20	300298	13-TLR-14	550291	13-TLR-5
65448	13-TLR-5	300069	13-PWR-16	300204	13-PWR-19	300302	13-PWR-25	550335	13-SENS-1
65456	13-SENS-1,	300073	13-PWR-18	300205	13-PWR-19	300303	13-PWR-18	550341	13-SENS-1
	13-SENS-2	300074	13-PWR-19	300206	13-PWR-19	300307	13-PWR-18	550341	13-SENS-1
65459	13-SENS-1,	300083	13-SENS-4	300207	13-PWR-19	300308	13-PWR-18	550384	13-SENS-1
	13-SENS-2	300084	13-SENS-4	300208	13-PWR-17	300311	13-PWR-20	550385	13-SENS-1
65472	13-SENS-1,	300085	13-SENS-4	300212	13-TLR-16	300313	13-PWR-20	550386	13-SENS-1
	13-SENS-2	300086	13-SENS-4	300213	13-TLR-16	300315	13-PWR-20	550387	13-SENS-1
65473	13-SENS-1,	300087	13-SENS-4	300214	13-TLR-18	300317	13-PWR-19	550395	13-SENS-1
	13-SENS-2	300088	13-SENS-4	300215	13-TLR-18	300319	13-PWR-23	550414	13-PWR-14
65501	13-PWR-6	300089	13-TLR-20,	300216	13-TLR-16	300320	13-PWR-23	550423	13-TLR-5
65502	13-SENS-1,	300090	13-PWR-22	300217	13-TLR-16	300321	13-PWR-23	550436	13-PWR-14
	13-SENS-3			300218	13-TLR-17	300322	13-PWR-25	550437	13-SENS-1
65509	13-PWR-12	300091	13-TLR-20,	300219	13-TLR-17	300323	13-PWR-25	550440	13-SENS-1
65516	13-PWR-10		13-PWR-22	300220	13-TLR-17	300325	13-PWR-16	550441	13-SENS-1
65517	13-SENS-1,	300092	13-TLR-20,	300221	13-TLR-17	300326	13-PWR-25	550442	13-SENS-1
	13-SENS-2		13-PWR-22	300222	13-PWR-16	300332	13-TLR-17	550443	13-PWR-14
65518	13-SENS-1,	300093	13-TLR-20,	300223	13-PWR-16	300333	13-TLR-17	550450	13-TLR-2
	13-SENS-2		13-PWR-22	300225	13-TLR-17	300334	13-TLR-17	550452	13-TLR-5
65524	13-TLR-2	300094	13-TLR-20,	300226	13-TLR-17	300335	13-TLR-17	550485	13-SENS-1
65528	13-SENS-1,		13-PWR-22	300227	13-TLR-17	300340	13-TLR-14	550486	13-SENS-1
	13-SENS-3	300095	13-TLR-20,	300231	13-TLR-17	300341	13-TLR-16	550487	13-SENS-1
			13-PWR-22	300232	13-TLR-17	300342	13-PWR-16	550514	13-TLR-5
								550530	13-PWR-14

Service Parts Catalog

Numerical Index

**550532 -
801198**

Part #	Page	Part #	Page	Part #	Page	Part #	Page	Part #	Page
550532	13-SENS-1, 13-SENS-3	800293	13-PWR-3	800624	13-PWR-3	800792	13-SENS-1, 13-SENS-3	801078	13-PWR-15
550534	13-SENS-1	800294	13-PWR-3	800642	13-PWR-10			801079	13-PWR-15
550567	13-PWR-12	800296	13-PWR-12	800643	13-PWR-10	800793	13-SENS-1, 13-SENS-3	801080	13-PWR-15
550579	13-TLR-5	800297	13-PWR-6	800655	13-SENS-1, 13-SENS-3	800794	13-PWR-15	801081	13-PWR-15
550607	13-SENS-1	800298	13-PWR-10			800795	13-PWR-15	801082	13-PWR-15
550610	13-SENS-1	800299	13-PWR-8	800659	13-SENS-1, 13-SENS-3	800796	13-PWR-15	801083	13-PWR-15
550656	13-SENS-1	800301	13-PWR-3			800797	13-PWR-15	801086	13-PWR-10
550657	13-SENS-1	800306	13-SENS-1, 13-SENS-3	800665	13-PWR-14, 13-PWR-15	800798	13-PWR-15	801090	13-SENS-1, 13-SENS-2
550686	13-SENS-1	800308	13-SENS-1, 13-SENS-2	800666	13-PWR-14, 13-PWR-15	800799	13-PWR-15	801091	13-SENS-1, 13-SENS-2
550698	13-PWR-10					800817	13-PWR-10		
550711	13-TLR-2	800334	13-PWR-12	800668	13-SENS-1, 13-SENS-2	800818	13-PWR-10	801092	13-SENS-1, 13-SENS-2
550714	13-TLR-3	800335	13-PWR-10			800819	13-TLR-7, 13-TLR-8, 13-TLR-10	801093	13-SENS-1, 13-SENS-2
550715	13-SENS-1	800343	13-SENS-1, 13-SENS-3	800669	13-SENS-1, 13-SENS-2				
550719	13-TLR-2			800670	13-PWR-15	800820	13-TLR-2, 13-TLR-3, 13-TLR-10	801094	13-SENS-1, 13-SENS-2
550721	13-TLR-5	800344	13-SENS-1, 13-SENS-3	800671	13-PWR-15			801095	13-SENS-1, 13-SENS-2
550733	13-PWR-12	800356	13-SENS-1, 13-SENS-3	800688	13-SENS-1, 13-SENS-3	800821	13-TLR-10, 13-TLR-11	801096	13-SENS-1, 13-SENS-2
550759	13-SENS-1			800689	13-SENS-1, 13-SENS-3	800834	13-TLR-2		
550761	13-PWR-12	800357	13-PWR-14			800842	13-PWR-10	801101	13-PWR-12
550767	13-SENS-1	800368	13-TLR-3	800690	13-SENS-1, 13-SENS-3	800852	13-PWR-5	801104	13-TLR-10
550778	13-PWR-12	800387	13-PWR-6	800692	13-PWR-10	800853	13-PWR-5	801118	13-PWR-10
550796	13-SENS-1	800388	13-PWR-6	800708	13-SENS-1, 13-SENS-3	800854	13-PWR-4	801119	13-PWR-12
800000		800392	13-PWR-3	800709	13-PWR-10	800858	13-PWR-15	801127	13-PWR-10
800007	13-PWR-12	800398	13-PWR-6	800715	13-SENS-1, 13-SENS-3	800859	13-PWR-15	801132	13-TLR-2, 13-TLR-7, 13-TLR-9, 13-TLR-10
800014	13-PWR-14	800400	13-PWR-3	800716	13-SENS-1, 13-SENS-3	800860	13-PWR-3		
800030	13-PWR-10	800401	13-PWR-3			800886	13-PWR-3	801133	13-TLR-3, 13-TLR-8, 13-TLR-9, 13-TLR-10
800031	13-PWR-12	800402	13-PWR-3	800717	13-SENS-1, 13-SENS-3	800935	13-TLR-12		
800040	13-PWR-10	800442	13-SENS-1, 13-SENS-3	800729	13-SENS-1, 13-SENS-2	800936	13-TLR-12	801134	13-TLR-11
800041	13-PWR-10	800451	13-PWR-14	800730	13-SENS-1, 13-SENS-2	800937	13-TLR-12	801135	13-TLR-10, 13-TLR-11
800055	13-SENS-1, 13-SENS-3	800463	13-PWR-10	800734	13-TLR-10	800938	13-TLR-12		
800096	13-PWR-10	800465	13-PWR-10	800735	13-TLR-10	800939	13-TLR-12	801136	13-TLR-10, 13-TLR-11
800109	13-SENS-1, 13-SENS-2	800466	13-PWR-6	800736	13-TLR-7, 13-TLR-10	800940	13-TLR-12		
800110	13-SENS-1, 13-SENS-2	800487	13-SENS-1, 13-SENS-2	800737	13-TLR-2, 13-TLR-10	800941	13-TLR-12	801166	13-TLR-10, 13-PWR-4, 13-PWR-5
800111	13-SENS-1, 13-SENS-2	800488	13-SENS-1, 13-SENS-3	800740	13-TLR-10, 13-TLR-11	800942	13-TLR-12		
800132	13-SENS-1, 13-SENS-3	800489	13-SENS-1, 13-SENS-3	800741	13-TLR-11	800943	13-TLR-12	801167	13-PWR-4, 13-PWR-5
800133	13-SENS-1, 13-SENS-3	800500	13-PWR-12	800775	13-TLR-12	800944	13-TLR-12		
800134	13-SENS-1, 13-SENS-3	800504	13-PWR-10	800776	13-TLR-7, 13-TLR-8, 13-TLR-12	800945	13-TLR-12	801173	13-PWR-4, 13-PWR-5
800138	13-TLR-2	800537	13-PWR-6			800946	13-TLR-12		
800160	13-SENS-1, 13-SENS-3	800541	13-PWR-10	800777	13-TLR-12	800947	13-TLR-12	801174	13-TLR-10, 13-PWR-4, 13-PWR-5
800161	13-SENS-1, 13-SENS-3	800542	13-SENS-1, 13-SENS-3	800778	13-TLR-12	800948	13-TLR-12		
800163	13-PWR-6	800542	13-PWR-10	800779	13-TLR-7, 13-TLR-8, 13-TLR-12	800949	13-TLR-12	801175	13-SENS-1, 13-SENS-3
800179	13-PWR-6	800543	13-SENS-1, 13-SENS-3			800950	13-TLR-12		
800186	13-PWR-8	800544	13-SENS-1, 13-SENS-3	800780	13-TLR-12	800951	13-TLR-12	801176	13-PWR-4, 13-PWR-5
800187	13-PWR-8	800547	13-TLR-3	800781	13-TLR-12	800952	13-TLR-12		
800197	13-SENS-1, 13-SENS-3	800548	13-TLR-6	800782	13-TLR-12	800956	13-TLR-12	801177	13-PWR-4, 13-PWR-5
800198	13-SENS-1, 13-SENS-3	800558	13-PWR-3	800783	13-TLR-12	800957	13-TLR-12		
800199	13-SENS-1, 13-SENS-3	800574	13-TLR-2	800784	13-TLR-12	800965	13-PWR-3	801178	13-PWR-5
800200	13-SENS-1	800582	13-PWR-3	800785	13-TLR-12	800966	13-PWR-3	801179	13-PWR-4, 13-PWR-5
800201	13-SENS-1, 13-SENS-3	800582	13-SENS-1, 13-SENS-3	800786	13-TLR-12	800967	13-PWR-3		
800275	13-PWR-3	800592	13-SENS-1, 13-SENS-3	800787	13-TLR-12	800968	13-PWR-14, 13-PWR-15	801180	13-PWR-4, 13-PWR-5
800276	13-PWR-3	800593	13-SENS-1, 13-SENS-3	800788	13-TLR-12	800971	13-PWR-3		
		800605	13-PWR-6	800789	13-TLR-13	800976	13-PWR-3	801181	13-PWR-4, 13-PWR-5
		800609	13-PWR-10	800791	13-SENS-1, 13-SENS-3	800977	13-PWR-3	801197	13-PWR-4, 13-PWR-5
		800611	13-PWR-12					801198	13-PWR-4, 13-PWR-5
		800614	13-SENS-1, 13-SENS-3						
		800623	13-PWR-3						
						801000			
						801026	13-PWR-4		
						801033	13-TLR-10		
						801035	13-PWR-8		
						801038	13-TLR-13		
						801039	13-TLR-13		
						801077	13-PWR-15		

Part #	Page	Part #	Page	Part #	Page	Part #	Page	Part #	Page
801199	13-PWR-4, 13-PWR-5	801246	13-TLR-9, 13-TLR-10	5001810	13-PWR-14	5005223	13-SENS-1	5007338	13-SENS-1
801200	13-PWR-4, 13-PWR-5	801247	13-TLR-9, 13-TLR-10	5001934	13-PWR-14	5005224	13-SENS-1	5007339	13-SENS-1
801201	13-PWR-4, 13-PWR-5	801248	13-TLR-9, 13-TLR-10	5001965	13-PWR-12	5005225	13-SENS-1	5007340	13-SENS-1
801202	13-PWR-4, 13-PWR-5	801249	13-TLR-9, 13-TLR-10	5001966	13-PWR-10	5005226	13-TLR-3	5007575	13-PWR-4
801203	13-PWR-4, 13-PWR-5	801251	13-SENS-1, 13-SENS-2	5002037	13-SENS-1	5005312	13-PWR-15	5007641	13-TLR-9
801204	13-PWR-4, 13-PWR-5	801252	13-SENS-1, 13-SENS-2	5002108	13-PWR-14	5005543	13-TLR-2	5007642	13-TLR-9
801205	13-PWR-4, 13-PWR-5	801267	13-TLR-10	5002109	13-PWR-14	5005673	13-PWR-10	5007643	13-TLR-9
801206	13-PWR-4, 13-PWR-5	801268	13-TLR-10	5002145	13-PWR-12	5005706	13-SENS-1	5007644	13-TLR-9
801207	13-PWR-4, 13-PWR-5	801323	13-PWR-15	5002146	13-PWR-12	5005707	13-SENS-1	5007645	13-TLR-9
801208	13-PWR-4, 13-PWR-5	801333	13-PWR-5	5002211	13-PWR-10	5005894	13-PWR-15	5007646	13-TLR-9
801209	13-PWR-4, 13-PWR-5	801334	13-PWR-5	5002212	13-PWR-12	5005895	13-PWR-15	5007658	13-TLR-11
801210	13-PWR-4, 13-PWR-5	801335	13-PWR-5	5002213	13-PWR-6	5005915	13-PWR-15	5007660	13-TLR-11
801211	13-PWR-4, 13-PWR-5	5000000		5002620	13-PWR-14	5005918	13-PWR-15	5007720	13-PWR-4
801212	13-PWR-4, 13-PWR-5	5000007	13-PWR-14	5002717	13-PWR-3	5005927	13-PWR-4	5007768	13-PWR-4
801225	13-PWR-4, 13-PWR-5	5000076	13-PWR-12	5002718	13-PWR-3	5005928	13-PWR-4	5007769	13-PWR-4
801226	13-PWR-4, 13-PWR-5	5000077	13-PWR-12	5002744	13-PWR-14	5005929	13-PWR-4	5007772	13-PWR-4
801227	13-PWR-4, 13-PWR-5	5000322	13-PWR-12	5002912	13-PWR-3	5005983	13-PWR-12	5007774	13-PWR-4
801228	13-PWR-4, 13-PWR-5	5000335	13-PWR-10	5002913	13-PWR-3	5006038	13-PWR-10	5007775	13-PWR-4
801229	13-TLR-10	5000336	13-PWR-12	5002985	13-PWR-3	5006039	13-PWR-10	5007776	13-PWR-4
801230	13-TLR-9, 13-TLR-10	5000436	13-PWR-10	5002986	13-PWR-3	5006043	13-PWR-10	5007819	13-TLR-12
801231	13-TLR-9, 13-TLR-10	5000437	13-PWR-10	5003067	13-SENS-1	5006044	13-PWR-10	5007820	13-TLR-12
801233	13-PWR-3, 13-PWR-4, 13-PWR-5	5000438	13-PWR-10	5003100	13-SENS-1	5006081	13-PWR-6	5007821	13-TLR-12
801234	13-PWR-3, 13-PWR-4, 13-PWR-5	5000439	13-PWR-10	5003213	13-PWR-14	5006149	13-PWR-12	5007822	13-TLR-12
801235	13-PWR-3, 13-PWR-4, 13-PWR-5	5000530	13-SENS-1	5003260	13-PWR-3	5006156	13-PWR-3	5007823	13-TLR-12
801236	13-PWR-3, 13-PWR-4, 13-PWR-5	5000795	13-SENS-1	5003412	13-PWR-12	5006177	13-SENS-1	5007824	13-TLR-12
801237	13-PWR-5	5000796	13-SENS-1	5003413	13-PWR-10	5006240	13-TLR-12	5007825	13-TLR-12
801238	13-PWR-5	5000889	13-SENS-1	5003607	13-SENS-1	5006314	13-PWR-3	5007826	13-TLR-12
801239	13-PWR-4, 13-PWR-5	5000890	13-SENS-1	5003608	13-SENS-1	5006401	13-PWR-10	5007827	13-TLR-12
801241	13-TLR-9, 13-TLR-10	5000891	13-SENS-1	5003737	13-PWR-14	5006402	13-PWR-10	5007828	13-TLR-12
801242	13-TLR-9, 13-TLR-10	5000892	13-SENS-1	5003919	13-PWR-3	5006404	13-PWR-10	5007829	13-TLR-12
801243	13-TLR-9, 13-TLR-10	5001063	13-SENS-1	5003921	13-PWR-10	5006405	13-PWR-10	5007830	13-TLR-12
801245	13-TLR-9, 13-TLR-10	5001064	13-SENS-1	5003924	13-PWR-3	5006432	13-PWR-15	5007833	13-TLR-13
		5001066	13-SENS-1	5003959	13-TLR-3	5006586	13-SENS-1	5007842	13-SENS-1
		5001090	13-PWR-10	5004016	13-PWR-12	5006625	13-PWR-15	5007843	13-SENS-1
		5001091	13-PWR-10	5004038	13-PWR-3	5006626	13-PWR-15	5007844	13-SENS-1
		5001108	13-PWR-14	5004039	13-PWR-3	5006658	13-PWR-15	5007891	13-PWR-15
		5001139	13-TLR-2	5004084	13-SENS-1	5006659	13-PWR-15	5007892	13-PWR-15
		5001167	13-SENS-1	5004149	13-PWR-3	5006663	13-SENS-1	5007893	13-PWR-15
		5001168	13-SENS-1	5004152	13-PWR-6	5006664	13-SENS-1	5007894	13-PWR-15
		5001243	13-SENS-1	5004165	13-PWR-3	5006674	13-PWR-10	5007895	13-PWR-15
		5001252	13-PWR-14	5004357	13-TLR-10	5006675	13-PWR-10	5007896	13-PWR-15
		5001275	13-PWR-10	5004358	13-TLR-10	5006676	13-PWR-12	5007897	13-PWR-15
		5001282	13-PWR-6	5004459	13-SENS-1	5006677	13-PWR-12	5007898	13-PWR-15
		5001286	13-PWR-8	5004569	13-PWR-10	5006678	13-PWR-15	5007899	13-PWR-15
		5001325	13-SENS-1	5004571	13-PWR-10	5006679	13-PWR-15	5007900	13-PWR-15
		5001326	13-SENS-1	5004588	13-PWR-10	5006680	13-PWR-15	5007901	13-PWR-15
		5001327	13-SENS-1	5004589	13-PWR-10	5006681	13-PWR-15	5007902	13-PWR-15
		5001328	13-SENS-1	5004602	13-SENS-1	5006682	13-PWR-15	5008128	13-PWR-15
		5001628	13-TLR-2	5004607	13-PWR-6	5006683	13-PWR-15	5008129	13-PWR-15
		5001656	13-PWR-6, 13-PWR-8	5004719	13-SENS-1	5006703	13-PWR-14	5008189	13-PWR-4
		5001657	13-PWR-6, 13-PWR-8	5004820	13-PWR-14	5006796	13-PWR-4	5008190	13-PWR-4
		5001667	13-SENS-1	5004860	13-PWR-12	5006797	13-PWR-4	5008191	13-PWR-4
		5001694	13-SENS-1	5004906	13-PWR-10	5006819	13-PWR-4	5008259	13-PWR-10
		5001695	13-SENS-1	5004959	13-PWR-10	5006828	13-SENS-1	5008260	13-PWR-10
		5001703	13-PWR-6	5004969	13-PWR-10	5006874	13-PWR-15	5008261	13-PWR-10
		5001764	13-PWR-14	5004977	13-PWR-10	5006875	13-PWR-15	5008263	13-TLR-9
				5005023	13-PWR-3	5006876	13-PWR-15	5008264	13-TLR-9
				5005024	13-PWR-3	5006905	13-PWR-12	5008265	13-TLR-9
				5005025	13-PWR-3	5006907	13-PWR-10	5008266	13-TLR-9
				5005026	13-PWR-3	5006908	13-PWR-10	5008267	13-TLR-9
				5005027	13-PWR-3	5007135	13-PWR-15	5008268	13-TLR-9
				5005041	13-PWR-10	5007217	13-SENS-1	5008271	13-TLR-11
				5005138	13-PWR-6	5007218	13-SENS-1	5008309	13-TLR-2
				5005139	13-PWR-6	5007249	13-SENS-1	5008339	13-PWR-3
				5005193	13-PWR-10	5007256	13-PWR-10	5008352	13-PWR-3

**5008356 -
5011722**

Part #	Page	Part #	Page	Part #	Page	Part #	Page	Part #	Page
5008376	13-PWR-4	5008766	13-TLR-12	5009239	13-PWR-4	5010310	13-PWR-4	5010627	13-TLR-9
5008377	13-PWR-4	5008767	13-TLR-12	5009240	13-PWR-4	5010314	13-PWR-4	5010628	13-TLR-9
5008378	13-PWR-4	5008768	13-TLR-12	5009241	13-PWR-4	5010316	13-PWR-4	5010629	13-TLR-9
5008379	13-PWR-4	5008769	13-TLR-12	5009242	13-PWR-4	5010318	13-PWR-4	5010630	13-TLR-9
5008380	13-PWR-4	5008770	13-TLR-12	5009243	13-PWR-4	5010319	13-PWR-4	5010631	13-TLR-9
5008404	13-PWR-3	5008847	13-PWR-4	5009244	13-PWR-4	5010320	13-PWR-4	5010632	13-TLR-9
5008405	13-PWR-3	5008848	13-PWR-4	5009245	13-PWR-4	5010345	13-PWR-4	5010633	13-TLR-9
5008406	13-PWR-3	5008849	13-PWR-4	5009246	13-PWR-4	5010346	13-PWR-5	5010634	13-TLR-9
5008407	13-PWR-3	5008857	13-PWR-4	5009253	13-PWR-4	5010347	13-PWR-5	5010635	13-TLR-9
5008424	13-PWR-3	5008858	13-PWR-4	5009299	13-PWR-4	5010348	13-PWR-5	5010636	13-TLR-9
5008457	13-PWR-10	5008898	13-PWR-3	5009304	13-PWR-15	5010349	13-PWR-5	5010637	13-TLR-9
5008470	13-PWR-4	5008899	13-PWR-3	5009305	13-PWR-15	5010350	13-PWR-5	5010638	13-TLR-9
5008471	13-PWR-4	5008926	13-PWR-15	5009306	13-PWR-15	5010351	13-PWR-5	5010639	13-TLR-9
5008472	13-PWR-4	5008927	13-PWR-15	5009308	13-PWR-15	5010352	13-PWR-5	5010640	13-TLR-9
5008473	13-PWR-4	5008951	13-PWR-15	5009309	13-PWR-15	5010353	13-PWR-5	5010641	13-TLR-9
5008474	13-PWR-4	5008962	13-PWR-3	5009324	13-PWR-10	5010354	13-PWR-5	5010642	13-TLR-9
5008475	13-PWR-4	5008967	13-PWR-10	5009337	13-PWR-12	5010355	13-PWR-5	5010643	13-TLR-9
5008476	13-PWR-4	5008970	13-PWR-3	5009339	13-PWR-10	5010356	13-PWR-5	5010644	13-SENS-1
5008487	13-PWR-15	5008971	13-PWR-3	5009356	13-PWR-12	5010357	13-PWR-5	5010647	13-SENS-1
5008488	13-PWR-15	5008973	13-PWR-12	5009526	13-TLR-9	5010358	13-PWR-5	5010680	13-TLR-7,
5008502	13-TLR-9	5008981	13-PWR-15	5009583	13-PWR-4	5010359	13-PWR-5		13-TLR-8
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5008504	13-TLR-9	5009024	13-PWR-3	5009711	13-TLR-9	5010362	13-PWR-5		13-TLR-8
5008505	13-TLR-9	5009025	13-PWR-3	5009713	13-TLR-9	5010364	13-PWR-5	5010953	13-TLR-7
5008506	13-TLR-9	5009026	13-PWR-4	5009714	13-TLR-9	5010366	13-PWR-5	5010954	13-TLR-7
5008507	13-TLR-9	5009027	13-PWR-3	5009716	13-TLR-11	5010367	13-PWR-5	5010955	13-TLR-8
5008508	13-PWR-4	5009031	13-PWR-3	5009718	13-TLR-11	5010368	13-PWR-5	5010956	13-TLR-7
5008533	13-TLR-9	5009032	13-PWR-3	5009720	13-TLR-11	5010369	13-PWR-5	5010957	13-TLR-8
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5008535	13-TLR-9	5009036	13-PWR-3	5009723	13-TLR-9	5010372	13-PWR-5	5010959	13-TLR-7
5008536	13-TLR-9	5009037	13-PWR-3	5009724	13-TLR-11	5010373	13-TLR-7,	5010960	13-TLR-8
5008537	13-TLR-9	5009038	13-PWR-3	5009725	13-TLR-11		13-TLR-8	5010961	13-TLR-7
5008538	13-TLR-9	5009039	13-PWR-3	5009726	13-TLR-11	5010374	13-TLR-10	5010962	13-TLR-8
5008539	13-PWR-15	5009040	13-PWR-4	5009732	13-TLR-7	5010375	13-TLR-10	5010963	13-TLR-7
5008540	13-PWR-15	5009046	13-PWR-4	5009733	13-TLR-8	5010382	13-PWR-5	5010964	13-TLR-7
5008541	13-PWR-15	5009047	13-PWR-4	5009734	13-TLR-7	5010383	13-PWR-5	5010965	13-TLR-8
5008542	13-PWR-15	5009048	13-PWR-4	5009735	13-TLR-8	5010403	13-SENS-1	5010966	13-TLR-7
5008545	13-PWR-15	5009049	13-PWR-4	5009773	13-PWR-10	5010428	13-TLR-10	5010967	13-TLR-8
5008546	13-PWR-15	5009050	13-PWR-4	5009774	13-PWR-10	5010429	13-PWR-5	5011025	13-PWR-15
5008560	13-TLR-8	5009053	13-PWR-3			5010430	13-PWR-5	5011026	13-PWR-15
5008564	13-TLR-7	5009054	13-PWR-10			5010431	13-TLR-10	5011027	13-PWR-15
5008565	13-TLR-7	5009082	13-PWR-12			5010465	13-PWR-5	5011096	13-PWR-5
5008566	13-TLR-8	5009085	13-PWR-15	5010027	13-TLR-9	5010466	13-PWR-5	5011100	13-PWR-5
5008567	13-TLR-7	5009086	13-PWR-15	5010028	13-TLR-9	5010467	13-PWR-5	5011102	13-PWR-5
5008568	13-TLR-7	5009117	13-PWR-4	5010172	13-TLR-10	5010468	13-PWR-5	5011261	13-TLR-19
5008602	13-PWR-4	5009118	13-PWR-4	5010174	13-PWR-4	5010565	13-TLR-10	5011262	13-TLR-19
5008603	13-PWR-4	5009120	13-SENS-1	5010175	13-PWR-4	5010566	13-TLR-10	5011303	13-SENS-1
5008604	13-PWR-4	5009121	13-SENS-1	5010176	13-PWR-4	5010567	13-TLR-10	5011304	13-SENS-1
5008605	13-PWR-4	5009122	13-SENS-1	5010177	13-PWR-4	5010568	13-TLR-9	5011361	13-PWR-12
5008687	13-PWR-3	5009123	13-SENS-1	5010178	13-PWR-4	5010569	13-TLR-9	5011362	13-PWR-10
5008731	13-TLR-12	5009124	13-SENS-1	5010179	13-PWR-4	5010612	13-TLR-9	5011721	13-TLR-17
5008732	13-TLR-12	5009125	13-SENS-1	5010292	13-PWR-4	5010613	13-TLR-9	5011722	13-TLR-17
5008753	13-TLR-12	5009126	13-SENS-1	5010293	13-PWR-4	5010614	13-TLR-9		
5008754	13-TLR-12	5009133	13-PWR-4	5010294	13-PWR-4	5010615	13-TLR-9		
5008755	13-TLR-12	5009157	13-TLR-9	5010295	13-PWR-4	5010616	13-TLR-9		
5008756	13-TLR-12	5009173	13-PWR-4	5010296	13-PWR-4	5010617	13-TLR-9		
5008757	13-TLR-12	5009174	13-PWR-8	5010297	13-PWR-4	5010618	13-TLR-9		
5008758	13-TLR-12	5009190	13-PWR-4	5010301	13-PWR-4	5010619	13-TLR-9		
5008759	13-TLR-12	5009193	13-TLR-13	5010302	13-PWR-4	5010620	13-TLR-9		
5008760	13-TLR-12	5009194	13-TLR-13	5010303	13-PWR-4	5010621	13-TLR-9		
5008761	13-TLR-12	5009204	13-PWR-4	5010304	13-PWR-4	5010622	13-TLR-9		
5008762	13-TLR-12	5009235	13-PWR-4	5010305	13-PWR-4	5010623	13-TLR-9		
5008763	13-TLR-12	5009236	13-PWR-4	5010306	13-PWR-4	5010624	13-TLR-9		
5008764	13-TLR-12	5009237	13-PWR-4	5010307	13-PWR-4	5010625	13-TLR-9		
5008765	13-TLR-12	5009238	13-PWR-4	5010308	13-PWR-4	5010626	13-TLR-9		
				5010309	13-PWR-4				

WS-20 Speed Sensors

EC-30
Speed Sensors

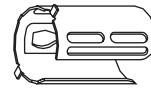
CATALOG
13-SENS-1



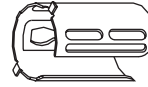
**0 Degree
Speed Sensor
(version with
shoulder shown)**



**90 DEG.
SPEED SENSOR**

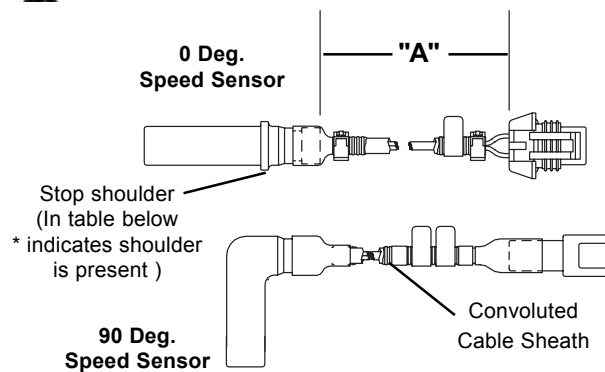


**Sensor Bushing
Pc. No. 65446 or II16774**



**Sensor Bushing
Pc. No. 800697**

Use in sensor mounting blocks
31mm (1.22") wide or less ONLY.



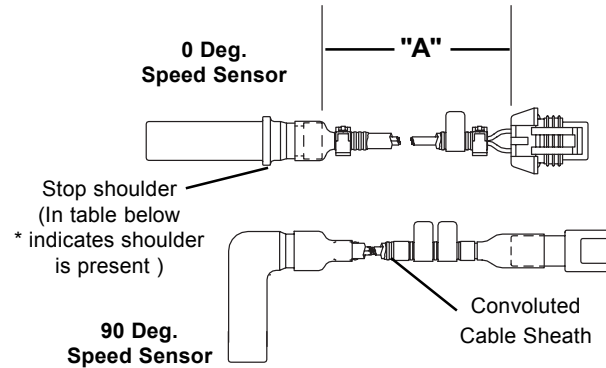
WS-20 CHANGEOVER		
O.E. Pc. No.	Service Pc. No.	Sensor Config
65703	800110	90
65704	N/A	N/A
65705	550532	90
550285	65279	90
550286	65280	0*
550335	65301	90
550341	65310	0*
550384	65323	90
550385	65324	90
550386	65325	90
550387	800110	90
550395	N/A	N/A
550437	65357	90
550440	65362	0*
550441	65363	0*
550442	65368	90
550485	65456	0
550486	65459	0
550487	N/A	N/A
550532	550532	90
550534	65414	0*
550607	65472	0*
550610	65473	0

WS-20 CHANGEOVER		
O.E. Pc. No.	Service Pc. No.	Sensor Config
550656	65517	90
550657	65518	90
550686	65502	0*
550715	65528	90
550759	65640	0
550767	65659	90
550796	65711	0
800200	800198	90
5000530	800055	90
5000795	65517	90
5000796	65518	90
5000889	800132	90
5000890	800161	90
5000891	800488	90
5000892	800133	90
5001063	800109	90
5001064	800110	90
5001066	800111	0
5001167	800688	90
5001168	800689	90
5001243	800134	90
5001325	800197	0*
5001326	800198	90

WS-20 CHANGEOVER		
O.E. Pc. No.	Service Pc. No.	Sensor Config
5001327	800199	90
5001328	800198	90
5001667	800356	90
5001694	800160	0*
5001695	800690	90
5002037	800201	90
5003067	800306	0*
5003100	800308	90
5003607	800343	0*
5003608	800344	90
5004084	800160	0
5004459	800442	90
5004602	800489	90
5004719	800487	90
5005223	800542	0
5005224	800543	0
5005225	800544	0
5005706	800592	0
5005707	800593	90
5006177	800614	0
5006586	800659	90
5006663	800668	0
5006664	800669	0

WS-20 CHANGEOVER		
O.E. Pc. No.	Service Pc. No.	Sensor Config
5006828	800655	90
5007217	800729	90
5007218	800730	90
5007249	800708	90
5007338	800715	90
5007339	800716	90
5007340	800717	90
5007842	800791	0*
5007843	800792	0*
5007844	800793	0*
5009120	801090	0
5009121	801091	0
5009122	801092	0
5009123	801093	0
5009124	801094	90
5009125	801095	90
5009126	801096	90
5010403	801175	0
5010644	801251	0
5010647	801252	90
5011303	801094	90
5011304	801095	90

* Indicates stop shoulder molded into sensor.



Kabelmetal Connector

Service Pc. No.	A Inches	Sensor Config.	Comments
65640	68	0	Convolved Cable Sheath, Volvo
65711	68	0	Convolved Cable Sheath
800111	68	0	With Spring Retainer
800109	68	90	With Spring Retainer
800308	68	90	Convolved Cable Sheath, Volvo
800110	80	90	With Spring Retainer



Packard Metripack GT 150 Series Connector

Service Pc. No.	A Inches	Sensor Config.	Comments
801096	30	90	Convolved Cable Sheath
801093	34	0	Convolved Cable Sheath ¹
801252	37	90	Convolved Cable Sheath
801092	42	0	Convolved Cable Sheath
801091	47	0	Convolved Cable Sheath
801090	51	0	Convolved Cable Sheath



Metripack 280 Series Connector

Service Pc. No.	A Inches	Sensor Config.	Comments
65357	62	90	
800729	64	90	
65363	64	0*	
65472	64	0*	
800730	64	90*	
65456	88	0*	(Bushing Included)
65459	98	0*	
65659	97	90	
65280	139	0*	
65279	139	90	



Metripack 150 Series Connector

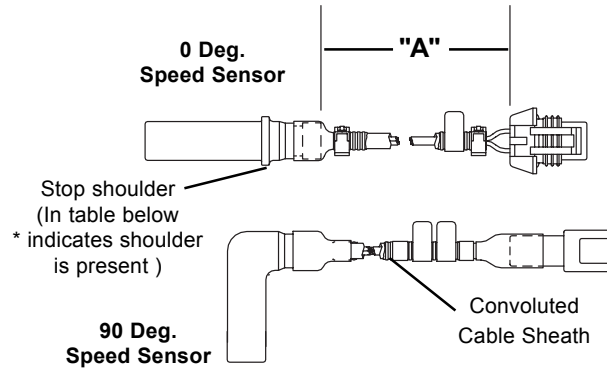
Service Pc. No.	A Inches	Sensor Config.	Comments
801093	34	0	Convolved Cable Sheath
800669	35	0	
800668	36	0	
801251	38	0	Convolved Cable Sheath ¹
65473	64	0	Convolved Cable Sheath
65517	64	90	Convolved Cable Sheath, GM # 15974484
800487	64	90	Convolved Cable Sheath
65518	76	90	Convolved Cable Sheath
801095	85	90	Convolved Cable Sheath
801094	83	90	Convolved Cable Sheath

Note 1 - Supplied with Bushing

WS-20 Speed Sensors

EC-30
Speed Sensors

CATALOG
13-SENS-3



Deutsch DT04-2P Connector

NOTE:
Deutsch Model Number "DT04-2P" Molded Into
Connector Body

Service Pc. No.	A Inches	Sensor Config.	Comments
801175	41	0	Convolute Cable Sheath
65502	49	0*	Convolute Cable Sheath
65414	61	0*	
800793	61	0*	
65310	76	0*	Convolute Cable Sheath
800791	76	0*	
65362	104	0*	Convolute Cable Sheath
800792	104	0*	
800055	25	90	Convolute Cable Sheath
65528	31	90	Convolute Cable Sheath
800659	41	90	
800717	41	90	
65323	49	90	Convolute Cable Sheath
65368	49	90	Convolute Cable Sheath, Ford
65301	61	90	Convolute Cable Sheath
800715	61	90	
65324	76	90	Convolute Cable Sheath
800716	76	90	
65325	104	90	Convolute Cable Sheath



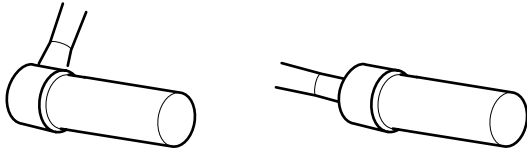
Deutsch DTM06-2S Connector

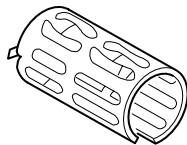
NOTE: Deutsch Model Number
"DTM06-2S" Molded Into
Connector Body

Service Pc. No.	A Inches	Sensor Config.	Comments
800542	13	0*	
800197	49	0*	Ford
800306	49	0*	Convolute Cable Sheath
800343	49	0*	Convolute Cable Sheath, Ford
800592	49	0*	Convolute Cable Sheath, Ford
800160	61	0*	Convolute Cable Sheath
800544	61	0*	
800614	61	0	Convolute Cable Sheath
800543	104	0*	
800442	13	90	
800489	41	90	Convolute Cable Sheath
800161	49	90	Convolute Cable Sheath
800198	49	90	Ford
800690	49	90	
800132	61	90	Convolute Cable Sheath
800199	61	90	Ford
800344	61	90	Convolute Cable Sheath, Ford
800593	61	90	Convolute Cable Sheath, Ford
800655	61	90	Convolute Cable Sheath
800688	61	90	
550532	68	90	
800201	76	90	Convolute Cable Sheath, Ford
800356	76	90	With Spring Retainer
800488	76	90	Convolute Cable Sheath
800708	76	90	Convolute Cable Sheath
800133	104	90	Convolute Cable Sheath
800689	104	90	
800134	139	90	

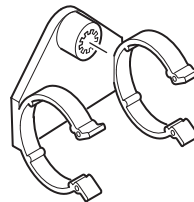
Note 1 - Supplied with Bushing

Gen 4 and Gen 5 Wheel End Sensors and Related Components

 <p>NOTE: Formerly marketed under the Eaton® brand name</p>			
Service Pc. No.	Cable Length	Sensor Config.	Comments
300083	1.3 ft. (0.40 m.)	90	low temperature range applications
300086	2.6 ft. (0.80 m.)	90	
300085	3.3 ft. (1.00 m.)	90	
300171	3.3 ft. (1.00 m.)	0	
300150	5.6 ft. (1.70 m.)	90	
300151	5.6 ft. (1.70 m.)	0	
300084	6.6 ft. (2.00 m.)	90	
300087	6.6 ft. (2.00 m.)	0	



Friction Sleeve pc. no. 300088



Wire Retainer pc. no. 300122

For other harness part information see the index at the front of this catalog.

Bendix ABS for Power Vehicles

Antilock and Traction Systems and Components.

Bendix EC-30 ABS

Pages 13-PWR-1 to 13-PWR-15



Gen 4 and Gen 5 ABS

(formerly marketed under the Eaton® brand name)

Pages 13-PWR-16 to 13-PWR-25



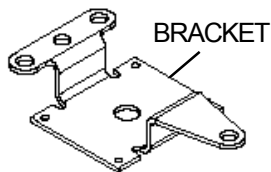


**EC-16 ANTILOCK
CONTROLLER**



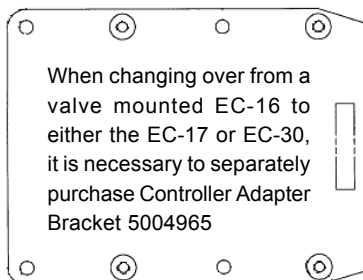
**EC-30 ANTILOCK
CONTROLLER
801236**

BRACKET KIT 800108



Contains:

- 1 Bracket
- 4 1/4"-20 Hex Nuts
- 4 1/4"-20 Cap Screws



When changing over from a valve mounted EC-16 to either the EC-17 or EC-30, it is necessary to separately purchase Controller Adapter Bracket 5004965

**EC-16 to EC-17/EC-30
Controller Adapter
Bracket
5004965**

IMPORTANT NOTES

All EC-16 Electronic Controller part numbers are obsolete and replaced by a single EC-30 part number:

801236

Because the mounting hole spacing is different on the EC-30 the following must be considered:

1. When changing over from a valve mounted EC-16 to the EC-30, it is necessary to separately purchase Controller Adapter Bracket 5004965.
2. When changing over from a remote (bracket) mounted EC-16 to the EC-30, it is necessary to separately purchase bracket kit 800108.

EC-17 ANTILOCK CONTROLLER



CONNECTORS

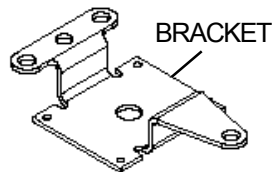


DIAGNOSTIC
WINDOW

EC-17 & EC-30 SERVICE REPLACEMENT PIECE NUMBERS				
Service Pc. No.	O.E.M.	With Brkt.	EC-30 (NOTE 1)	Comments
800886	GENERIC	NO	801236	GENERIC REPLACEMENT
800965	VOLVO	NO	801233	USE ON VOLVO VEHICLES
800966	VOLVO	YES	801233	USE ON VOLVO VEHICLES - REMOTE MOUNT WBRKT.
800967	GENERIC	YES	801236	GENERIC REPLACEMENT - REMOTE MOUNT WBRKT.
800976	GM	NO	801234	USE ON GM VEHICLES - 86 TOOTH TONE WHEEL
800977	GM	NO	801235	USE ON GM VEHICLES

Note 1: When replacing a remote mount EC-17 with an EC-30 equivalent, the remote mount bracket must be reused or bracket kit 800108 purchased separately.

BRACKET KIT 800108



Contains:

- 1 Bracket
- 4 1/4"-20 Hex Nuts
- 4 1/4"-20 Cap Screws

EC-17	EC-30
800275	801236
800276	801236
800293	801236
800294	801236
800301	801234
800392	801236
800400	801235
800401	801233
800402	801233
800558	801236
800582	801236
800623	801236
800624	801236
800860	801236
800886	801236
800965	801233
800966	801233

EC-17	EC-30
800967	801236
800971	801236
800976	801234
800977	801235
5002717	801235
5002718	801234
5002912	801236
5002913	801236
5002985	801236
5002986	801236
5003260	801236
5003919	801236
5003924	801236
5004038	801233
5004039	801233
5004149	801236

EC-17	EC-30
5004165	801236
5005023	801236
5005024	801236
5005025	801236
5005026	801236
5005027	801236
5006156	801236
5006314	801236
5008339	801236
5008352	801236
5008404	801236
5008405	801236
5008406	801236
5008407	801236
5008424	801236
5008687	801236

EC-17	EC-30
5008898	801233
5008899	801233
5008962	801236
5008970	801235
5008971	801234
5009024	801236
5009025	801236
5009027	801236
5009031	801235
5009032	801234
5009033	801236
5009036	801236
5009037	801236
5009038	801236
5009039	801236
5009053	801236



CONNECTORS

**EC-30 ANTILOCK
CONTROLLER**

NOTE

The controller part number is found on the identification label attached to the edge of the housing and is lightly engraved on the top surface.



DIAGNOSTIC
WINDOW

O.E. Pc. No.	Service Pc. No.	O.E. Customer	Customer Pc. No.
800854	801236		
5005927	801199 801202	GMT 560	15036467
5005928	801200 801203	GMT 560	15036466
5005929	801201 801204	GMT 560	15036465
5006796	801197	GMT 530	15752993
5006797	801198	GMT 530	15752992
5006819	801176	INTL. NGV	3548738C1
5007575	801176	INTL. NGV	3548737C1
5007720	801181	Petibone	62707081P
5007768	801225	VOLVO	20446234
5007769	801226 801225	VOLVO	20446235
5007772	801181	THOMAS	61201760
5007774	801181	Freightliner	
5007775	801181	MACK	7MN56BP2
5007776	801174	INTL.	3553413C1
5008189	801199	GMT 560	
5008190	801200	GMT 560	
5008191	801201	GMT 560	
5008376	801209 801212	GMT 560	15062790
5008377	801208 801211	GMT 560	15062791
5008378	801207 801210	GMT 560	15062792
5008379	801206	GMT 530	15062793
5008380	801205	GMT 530	15062794
5008470	801207	GMT 560	Generic
5008471	801208	GMT 560	Generic
5008472	801209	GMT 560	Generic
5008473	801233		Generic
5008474	801234		Generic
5008475	801235		Generic
5008476	801236		Generic
5008508	801197	GMC	
5008602	801180	FREIGHT	
5008603	801180	FREIGHT	
5008604	801181	FREIGHT	
5008605	801180	FREIGHT	
5008847	801167	INTL. NGV	3561247C1
5008848	801167	INTL. NGV	3561266C1
5008849	801173	INTL.	3560655C1
5008857	801227	VOLVO	20435372
5008858	801228 801227	VOLVO	20435373
5009026	801233	VOLVO	3099332
5009040	801236	FORD	YC3Z2C219AC
5009046	801233	VOLVO	
5009047	801235	GMC	
5009048	801234	GMC	
5009049	801236	Generic	Generic
5009050	801236	Generic	Generic
5009117	801026	Generic	Generic

O.E. Pc. No.	Service Pc. No.	O.E. Customer	Customer Pc. No.
5009118	801179	Generic	Generic
5009133	801236	NA	NA
5009173	801180	OTTAWA	90029231
5009190	801236	INTL.	8900075R91
5009204	801239	MACK	7MN56BP1
5009235	801180	Generic	Generic
5009236	801181	BLUE BIRD	36680
5009237	801174	Generic	Generic
5009238	801239	Generic	Generic
5009239	801173	Generic	Generic
5009240	801176	Generic	Generic
5009241	801176	Generic	Generic
5009242	801225	Generic	Generic
5009243	801197	Generic	Generic
5009244	801198	Generic	Generic
5009245	801205	Generic	Generic
5009246	801206	Generic	Generic
5009253	801177	Generic	Generic
5009299	801227	Generic	Generic
5009583	801180	MACK	7MN56BP3
5010174	801166	Navistar	3572460C1
5010175	801166	Navistar	3572461C1
5010176	801167	Navistar	3572462C1
5010177	801167	Navistar	3572463C1
5010178	801174	Navistar	3572398C1
5010179	801173	Navistar	3572398C1
5010292	801181	THOMAS	61201760
5010293	801181	THOMAS	61201760
5010294	801180	FREIGHT	
5010295	801180	FREIGHT	
5010296	801181	FREIGHT	
5010297	801180	FREIGHT	
5010301	801197	GMC	15166804
5010302	801198	GMC	15166805
5010303	801206	GMC	15166807
5010304	801205	GMC	15166806
5010305	801199 801202	GMC	15164779
5010306	801200 801203	GMC	15164778
5010307	801201 801204	GMC	15164777
5010308	801209 801212	GMC	15164780
5010309	801208 801211	GMC	15164781
5010310	801207 801210	GMC	15164782
5010314	801225	VOLVO	20462818
5010316	801227	VOLVO	20462817
5010318	801181	MACK	7MN56A & BP2
5010319	801239	MACK	7MN56B
5010320	801180	MACK	7MN56BP3
5010345	801181	NA	NA

Note: Controller service part numbers shown in **bold** are supplied with a bracket for remote mounting.

EC-30 Controller

Antilock

CATALOG
13-PWR-5

O.E. Pc. No.	Service Pc. No.	O.E. Customer	Customer Pc. No.
5010346	801202	NA	NA
5010347	801203	NA	NA
5010348	801204	NA	NA
5010349	801210	NA	NA
5010350	801211	NA	NA
5010351	801212	NA	NA
5010352	801233	NA	NA
5010353	801234	NA	NA
5010354	801235	NA	NA
5010355	801236	NA	NA
5010356	801237	NA	NA
5010357	801238	NA	NA
5010358	801180	OTTAWA	90029598
5010359	801180	OTTAWA	90029599
5010360	801181	BLUE BIRD	46009
5010362	801239	NA	NA
5010364	801166	NA	NA

O.E. Pc. No.	Service Pc. No.	O.E. Customer	Customer Pc. No.
5010366	801226	NA	NA
5010367	801197	NA	NA
5010368	801198	NA	NA
5010369	801205	NA	NA
5010370	801206	NA	NA
5010372	801228	NA	NA
5010382	800852	NA	NA
5010383	800853	NA	NA
5010429	801167	NA	NA
5010430	801173	NA	NA
5010465	801176	NA	NA
5010466	801177	NA	NA
5010467	801178	NA	NA
5010468	801179	NA	NA
5011096	801333	NA	NA
5011100	801334	NAVISTAR	3572398C2
5011102	801335	NA	NA

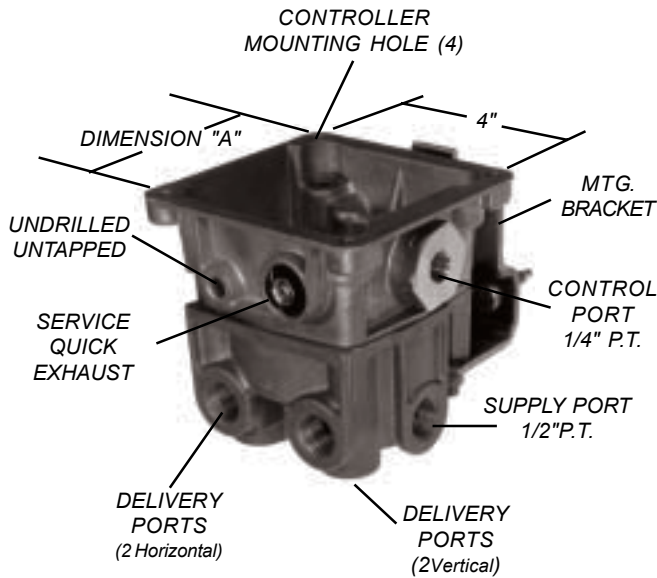
Service Replacements

Service Pc. No.	Traction Control ¹	Sensors Modulators ²	Communication Protocol	Blink Code ³	Power Line Carrier	Comment
801166	EL, DB	4 X 4	J1587, J1939			
801167	EL, DB	4 X 4	J1587, J1939		Y	
801173	EL, DB	6 X 4	J1587, J1939	Y	Y	
801174	EL, DB	6 X 4	J1587, J1939	Y		
801176	EL, DB	4 X 4	J1587, J1939			
801177	EL, DB	4 X 4	J1587, J1939		Y	
801178	EL, DB	4 X 4	J1587, J1939	Y		
801179	EL, DB	4 X 4	J1587, J1939	Y	Y	
801180	EL, DB	6 X 4	J1587, J1939	Y	Y	
801181	EL, DB	6 X 4	J1587, J1939	Y		
801197	NONE	4 X 4	J1587, J1939	Y	Y	
801198	NONE	4 X 4	J1587, J1939	Y	Y	86 TOOTH
801199	DB	6 X 4	J1587, J1939	Y	Y	W/BRKT.
801200	DB	4 X 4	J1587, J1939	Y	Y	W/BRKT.
801201	NONE	4 X 4	J1587, J1939	Y	Y	W/BRKT.
801202	DB	6 X 4	J1587, J1939	Y	Y	
801203	DB	4 X 4	J1587, J1939	Y	Y	
801204	NONE	4 X 4	J1587, J1939	Y	Y	
801205	NONE	4 X 4	J1587, J1939	Y		
801206	NONE	4 X 4	J1587, J1939	Y		86 TOOTH
801207	DB	6 X 4	J1587, J1939	Y		W/BRKT.
801208	DB	4 X 4	J1587, J1939	Y		W/BRKT.
801209	NONE	4 X 4	J1587, J1939	Y		W/BRKT.
801210	DB	6 X 4	J1587, J1939	Y		
801211	DB	4 X 4	J1587, J1939	Y		
801212	NONE	4 X 4	J1587, J1939	Y		
801225	EL, DB	6 X 4	J1587, J1939	Y		
801226	EL, DB	6 X 4	J1587, J1939	Y		W/BRKT.
801227	EL, DB	6 X 4	J1587, J1939	Y	Y	
801228	EL, DB	6 X 4	J1587, J1939	Y	Y	W/BRKT.
801233	EL, DB	6 X 4	J1587, J1939, J1922	Y		
801234	EL, DB	6 X 4	J1587, J1939, J1922	Y		86 TOOTH
801235	EL, DB	6 X 4	J1587, J1939, J1922	Y		
801236	EL, DB	6 X 4	J1587, J1939, J1922	Y		
801237	NONE	4 X 4	J1587, J1939	Y		
801238	NONE	4 X 4	J1587, J1939	Y	Y	
801239	EL, DB	6 X 4	J1587, J1939	Y	Y	
801333	NONE	4 X 4	J1587, J1939	Y		
801334	EL, DB	6 X 4	J1587, J1939	Y	Y	
801335	EL, DB	6 X 4	J1587, J1939	Y		

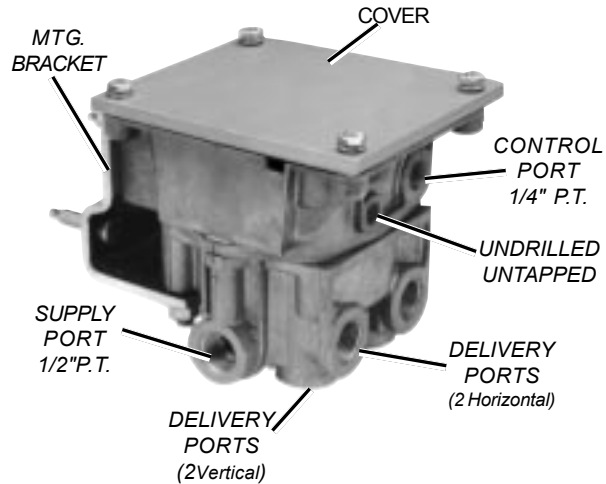
Note 1: "EL" = Engine Limiting feature - "DB" = Differential Braking feature.

Note 2: Number of Speed Sensors presented first Modulators second.

Note 3: Blink Code for troubleshooting is programmed into controller.

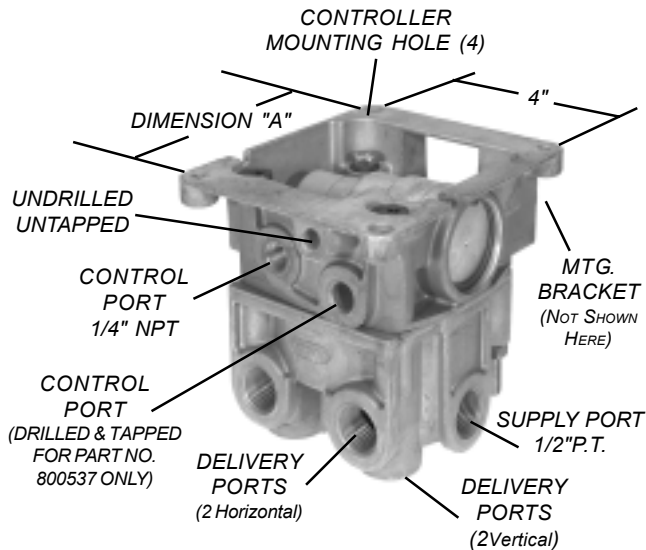


Valve Style A



Valve Style B

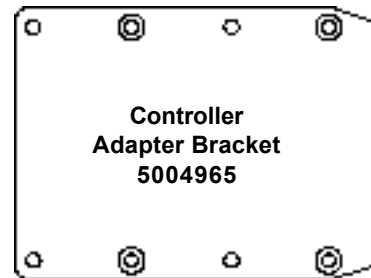
REMOTE MOUNT AR-1
THE REMOTE MOUNT AR-1 IS MOUNTED SEPARATE FROM THE ANTILOCK CONTROLLER AND UTILIZES A COVER. NO QUICK EXHAUST FUNCTION IS INCORPORATED.



Valve Style C

SERVICE REPLACEMENTS

AR-1 CHANGEOVER	
O.E.M. Part No.	Service Part No.
108472	65327
108638	65360
108910	65404
109350	65501
109365	800179
5001282	800297
5001703	800163
5002213	800163
5004152	800398
5004607	800466
5005139	800537
5006081	800605



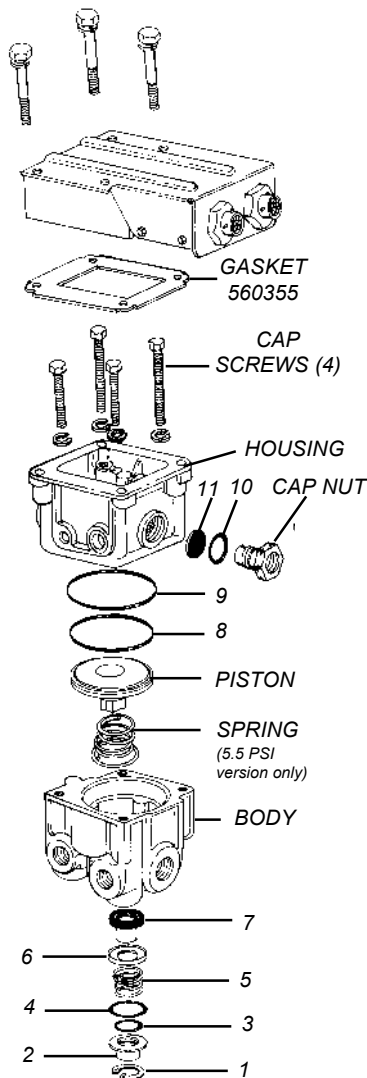
**Controller
Adapter Bracket
5004965**

**Controller
Adapter Bracket**

AR-1 valves that have an "A" dimension of 4.9 inches were originally used with the EC-16 controller. When replacing an EC-16 with an EC-17 or EC-30 controller on these valves this adapter must be purchased separately since the mounting holes are spaced differently.

Serv. Pc. No.	Valve Style	Delivery Port		Crack Press.	Mtg. Brkt.	Dim. "A"	Maint. Kit	Comments
		Horiz.	Vert.					
65327	A	2-1/2" NPT	---	4 PSI	5001656	4"	102802	
65360	A	2-3/8" NPT	2-3/8" NPT	4 PSI	5001656	4"	102802	
65404	A	2-1/2" NPT	---	5.5 PSI	5001656	4"	102802	
65501	A	2-1/2" NPT	N/A	4 PSI	108473	4"	102802	NO VERTICAL PORTS
800163	B	2-1/2" NPT	---	4 PSI	5001657	4.9"	109368	
800398	B	2-1/2" NPT	---	5.5 PSI	5001657	4.9"	109368	
800179	C	2-1/2" NPT	---	4 PSI	5001657	4.9"	109368	
800297	C	2-1/2" NPT	---	4 PSI	N/A	4.9"	109368	FORD
800466	C	2-1/2" NPT	---	5.5 PSI	5001657	4.9"	109368	
800537	C	2-1/2" NPT	---	4 PSI	5001657	4.9"	5005138	AR-1DC - SEE NOTE 1
800605	C	2-1/2" NPT	2-3/8" NPT	4 PSI	N/A	4.9"	109368	FORD
800387	C	2-1/2" NPT	---	4 PSI	5001657	4.9"	109368	
800388	C	2-1/2" NPT	---	5.5 PSI	5001657	4.9"	109368	

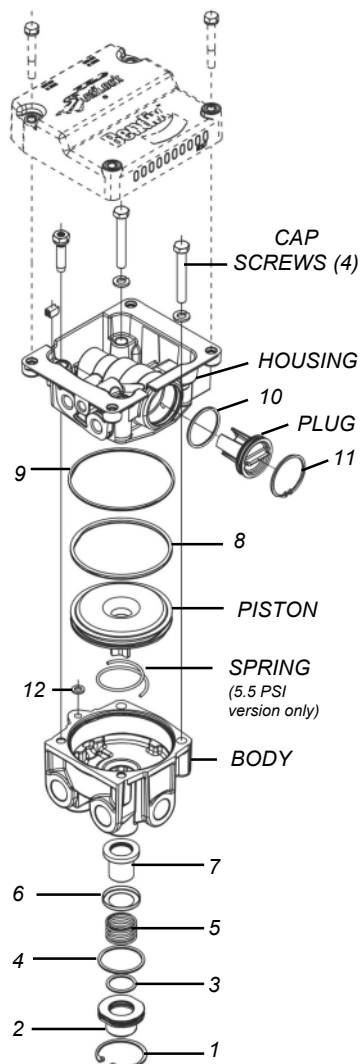
Note 1 - Control Ports 41 and 42 drilled and tapped

**MAINTENANCE KIT 102802**

CONTAINS THE FOLLOWING PARTS
KEYED TO THE ILLUSTRATION
ABOVE:

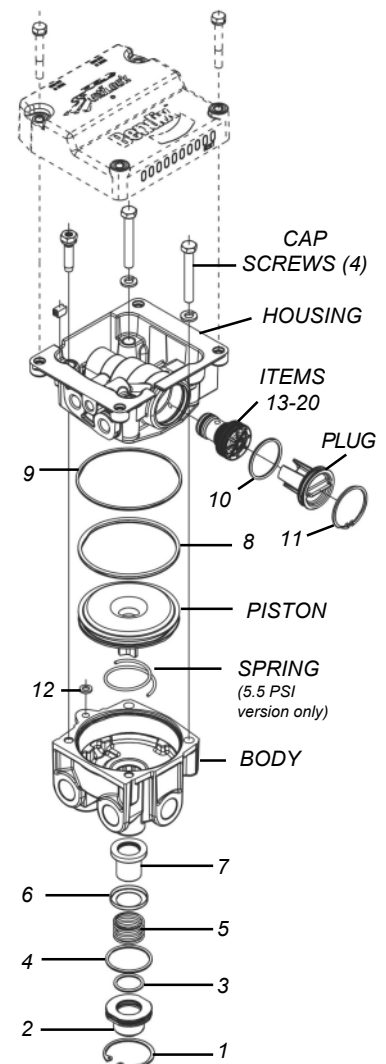
KEY NO.	QTY.	DESCRIPTION
1	1	RETAINING RING
2	1	EXH COVER CPL
3	1	O-RING
4	1	O-RING
5	1	VALVE SPRING
6	1	VALVE RETAINER
7	1	INL & EXH VALVE
8	1	O-RING
9	1	O-RING
10	1	O-RING
11	1	DIAPHRAGM

NOTE: GASKET 560355 MUST BE
PURCHASED SEPARATELY.

**MAINTENANCE KIT 109368**

CONTAINS THE FOLLOWING PARTS
KEYED TO THE ILLUSTRATION
ABOVE:

KEY NO.	QTY.	DESCRIPTION
1	1	RETAINING RING
2	1	EXH COVER CPL
3	1	O-RING
4	1	O-RING
5	1	VALVE SPRING
6	1	VALVE RETAINER
7	1	INL & EXH VALVE
8	1	O-RING
9	1	O-RING
10	1	O-RING
11	1	RETAINING RING
12	1	SEALING RING

**MAINTENANCE KIT 5005138**

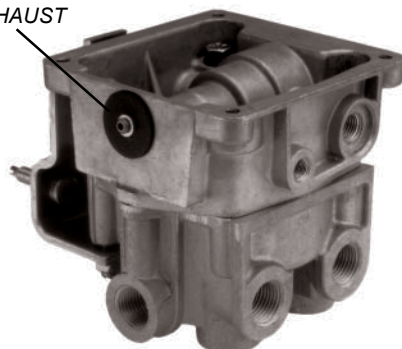
CONTAINS THE FOLLOWING PARTS
KEYED TO THE ILLUSTRATION
ABOVE:

KEY NO.	QTY.	DESCRIPTION
1	1	RETAINING RING
2	1	EXH COVER CPL
3	1	O-RING
4	1	O-RING
5	1	VALVE SPRING
6	1	VALVE RETAINER
7	1	INL & EXH VALVE
8	1	O-RING
9	1	O-RING
10	1	O-RING
11	1	RETAINING RING
12	1	SEALING RING
13	1	CHECK VALVE
14	2	CHK VLV GUIDE
15	1	O-RING
16	1	O-RING
17	1	SPRING
18	1	O-RING
19	1	O-RING
20	1	O-RING

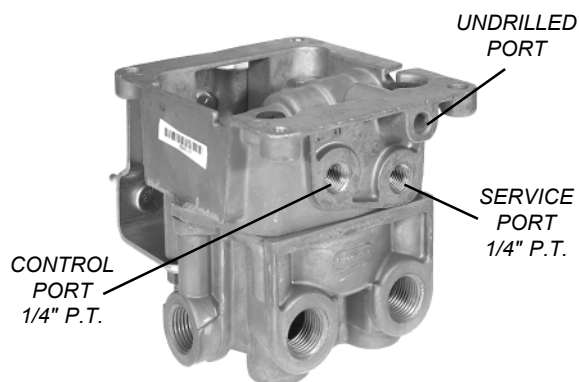
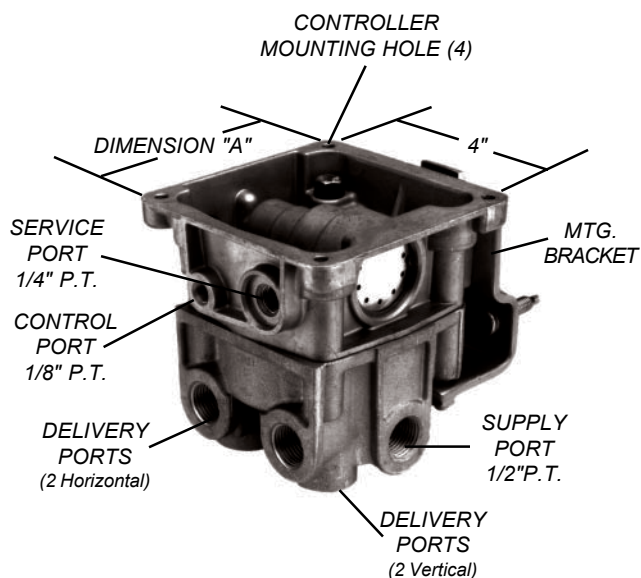
NOTE

DETAIL PARTS OTHER THAN THOSE SHOWN ARE NOT AVAILABLE FOR SERVICE.

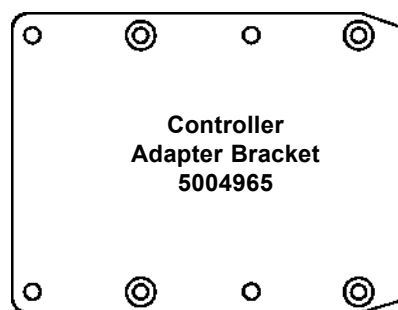
BRAKE
PROPORTIONING
EXHAUST



VIEW 1
FOR PART NOS.
65330 & 65364



VIEW 2
FOR PART NOS.
800186, 800187
800299, 801035

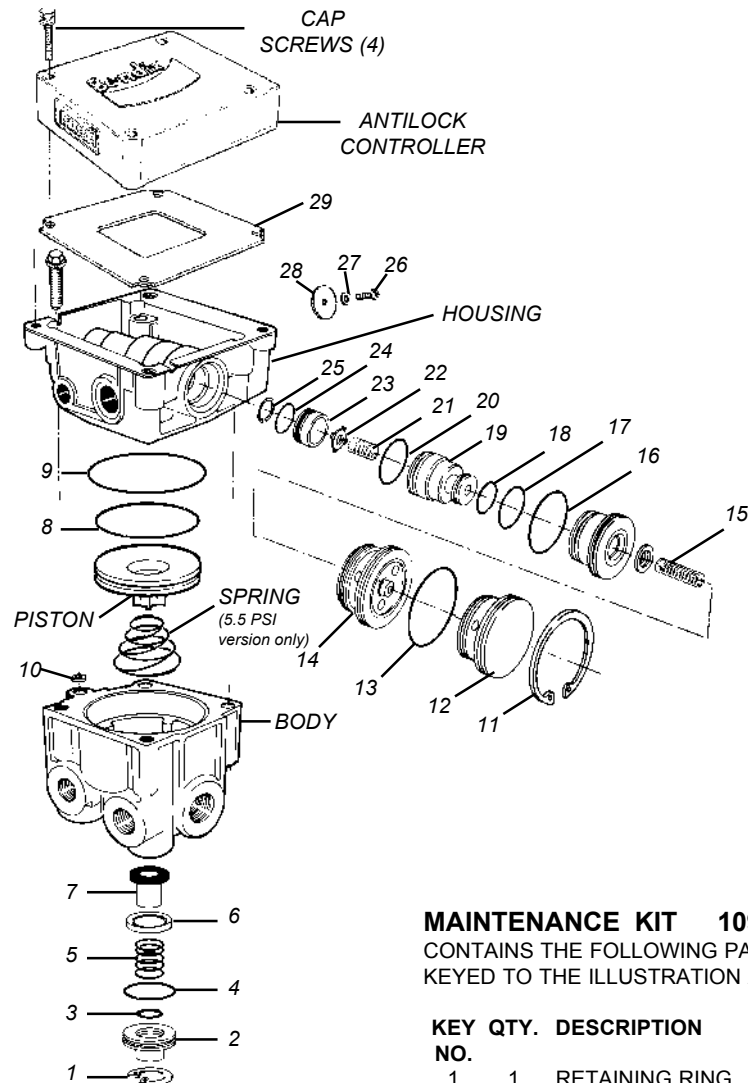


**Controller
Adapter Bracket**

AR-1 valves that have an "A" dimension of 4.9 inches were originally used with the EC-16 controller. When replacing an EC-16 controller with an EC-17 or EC-30 controller on these valves this adapter must be purchased separately since the mounting holes are spaced differently.

AR-2 ANTILOCK RELAY ASSEMBLY							
Serv. Pc. No.	Delivery Port		Crack Press.	Mtg. Brkt.	Dim. "A"	Maint. Kit	Comments
	Horiz.	Vert.					
065330	1/2" PT	---	4 psi	5001656	4.0"	106932	VIEW 1
065364	1/2" PT	---	5.5 psi	5001656	4.0"	106932	VIEW 1
800186	1/2" PT	---	4 psi	5001657	4.9"	109359	VIEW 2
800187	1/2" PT	---	5.5 psi	5001657	4.9"	109359	VIEW 2
800299	1/2" PT	---	4 psi	N/A	4.9"	109359	VIEW 2
801035	1/2" PT	3/8" PT	4 psi	N/A	4.9"	109359	VIEW 2

AR-2 CHANGEOVER	
Pc. No.	Service Pc. No.
108520	065330
108909	065364
109366	800186
109931	800186
5001286	800299
5009174	801035

**NOTE**

Detail parts other than those shown are not available for service.

MAINTENANCE KIT 106932

CONTAINS THE FOLLOWING PARTS
KEYED TO THE ILLUSTRATION ABOVE:

KEY NO.	QTY.	DESCRIPTION
1	1	RETAINING RING
2	1	EXH COVER CPL
3	1	O-RING
4	1	O-RING
5	1	VALVE SPRING
6	1	VALVE RETAINER
7	1	INL & EXH VALVE
8	1	O-RING
9	1	O-RING
10	1	SEALING RING
11	1	RETAINING RING
12	1	EXHAUST PISTON
13	1	O-RING
14	1	SERVICE PISTON
15	1	SPRING
16	1	O-RING
17	1	O-RING
18	1	O-RING
19	1	PROPO. PISTON
20	1	O-RING
21	1	SPRING
22	1	VALVE
23	1	VALVE SEAT
24	1	O-RING
25	1	RETAINING RING
26	1	#6 THD ROLL SCR
27	1	WASHER
28	1	EXHAUST DIA.
29	1	GASKET

MAINTENANCE KIT 109359

CONTAINS THE FOLLOWING PARTS
KEYED TO THE ILLUSTRATION ABOVE:

KEY NO.	QTY.	DESCRIPTION
1	1	RETAINING RING
2	1	EXH COVER CPL
3	1	O-RING
4	1	O-RING
5	1	VALVE SPRING
6	1	VALVE RETAINER
7	1	INL & EXH VALVE
8	1	O-RING
9	1	O-RING
10	1	SEALING RING
11	1	RETAINING RING
13	1	O-RING
15	1	SPRING
16	1	O-RING
17	1	O-RING
18	1	O-RING
20	1	O-RING
21	1	SPRING
22	1	VALVE
24	1	O-RING
25	1	RETAINING RING

NOTE:

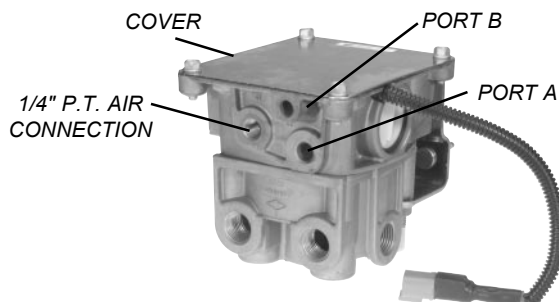
Key numbers 12, 14, 19, 23 and 26-29 not included in this kit.

CATALOG

13-PWR-10

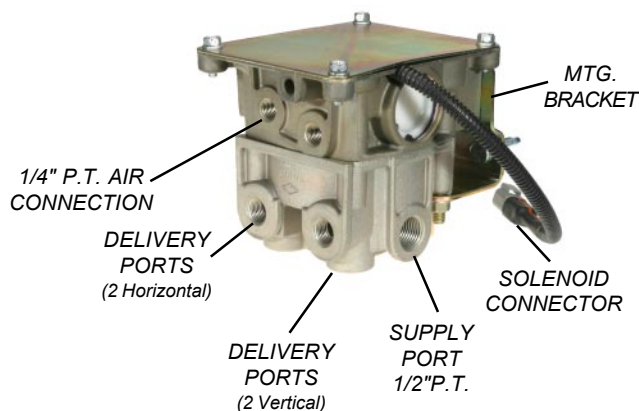
Antilock

ATR-1 Antilock Traction Relay



REMOTE MOUNT ATR-1

The remote mount version of the ATR-1 is designed to be mounted separate from the AntiLock/Traction controller and utilizes a cover. Service Replacement units without a cover are not intended for remote mounting.



ATR-1 CHANGEOVER	
O.E. Pc. No.	Service Pc. No.
550698	65516
5000335	800030
5000436	800040
5000437	800041
5000438	800040
5000439	800041
5001090	800096
5001091	800096
5001275	800298
5001966	800041
5002211	800030
5003413	800335

ATR-1 CHANGEOVER	
O.E. Pc. No.	Service Pc. No.
5003921	800030
5004569	800463
5004571	800463
5004588	800465
5004589	800465
5004906	800504
5004959	800465
5004969	800465
5004977	800463
5005041	800541
5005193	800541
5005673	800463

ATR-1 CHANGEOVER	
O.E. Pc. No.	Service Pc. No.
5006038	800609
5006039	800609
5006043	800465
5006044	800609
5006401	800642
5006402	800542
5006404	800643
5006405	800643
5006674	801086
5006675	801118
5006907	800692
5006908	800692

ATR-1 CHANGEOVER	
O.E. Pc. No.	Service Pc. No.
5007256	800709
5008259	800818
5008260	800817
5008261	800818
5008457	800842
5008967	800818
5009054	801118
5009324	801086
5009339	801118
5009773	801127
5009774	801127
5011362	801118

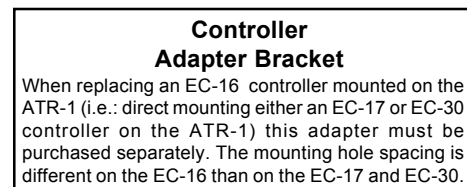


ATR-1 & ATR-1DC ANTILOCK TRACTION RELAY ASSEMBLIES										
Service Pc. No.	Port A	Port B	Del Horiz	Del Vert	Cover	Crack Press.	Solenoid Conn.	Mtg. Brkt. (1)	Maint. Kit	Comments
65516	---	---	1/2 PT	---	---	4	DT04-2P	5001657	109368	
800030	---	---	1/2 PT	---	112570	4	DT04-2P	5001657	109368	
800298	---	---	1/2 PT	---	5001947	4	DT04-2P	---	109368	
800335	---	---	1/2 PT	---	5001947	4	DT04-2P	---	109368	Plastic Screw w/Conn
800643	---	1/8 PT	1/2 PT	3/8 PT	112570	4	DT04-2P	5005776	109368	
800709	1/4 PT	---	1/2 PT	---	---	4	DT04-2P	5001657	109359	
800817	---	---	1/2 PT	---	---	4	DTM06-2S	5001657	109368	
800818	---	---	1/2 PT	---	112570	4	DTM06-2S	5001657	109368	
801086	1/4 PT	---	1/2 PTC	Note 2	112570	4	DTM06-2S	5009412	5004570	Sup. Prts: 2-1/2" PTC
801118	1/4 PT	---	1/2 PTC	Note 2	112570	4	DTM06-2S	---	5004570	Sup. Prts: 1-1/2" PTC 1-1/2" PT
801127	---	---	1/2 PT	3/8 PT	112570	4	DTM06-2S	5001657	109368	
800040	---	---	1/2 PT	---	112570	5.5	DT04-2P	5001657	109368	
800041	---	---	3/8 PT	3/8 PT	112570	5.5	DT04-2P	5005776	109368	
800096	---	---	1/2 PT	3/8 PT	112570	5.5	DT04-2P	5005776	109368	
800465	1/4 PT	---	3/8 PT	3/8 PT	112570	5.5	DT04-2P	5001657	109359	
800541	1/4 PT	1/8 PT	3/8 PT	3/8 PT	112570	5.5	DT04-2P	5001657	5004570	
800609	1/4 PT	1/8 PT	3/8 PT	3/8 PT	---	5.5	DT04-2P	5001657	5004570	
800642	---	1/8 PT	1/2 PT	3/8 PT	112570	5.5	DT04-2P	5005776	109368	
800692	1/4 PT	---	1/2 PT	3/8 PT	112570	5.5	DT04-2P	5005776	5004570	

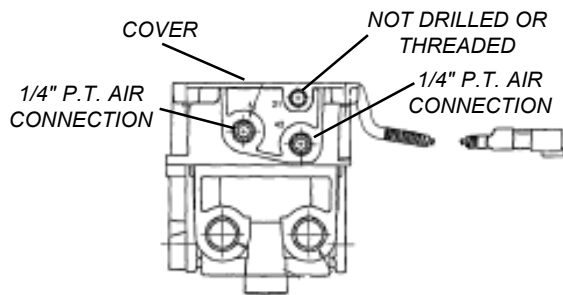
Note 1: Mounting bracket 5001657 has three 5/16"-18 x 1.35" studs. Mounting bracket 5005776 has two 3/8"-16 and three 5/16"-18 threaded holes. Mounting bracket 5009412 has two M8x1.25-5H threaded holes and two .55" holes.

Note 2: One vertical delivery port is 3/8" pipe thread (PT) and one is 3/8" push-to-connect (PTC).

CATALOG
13-PWR-11

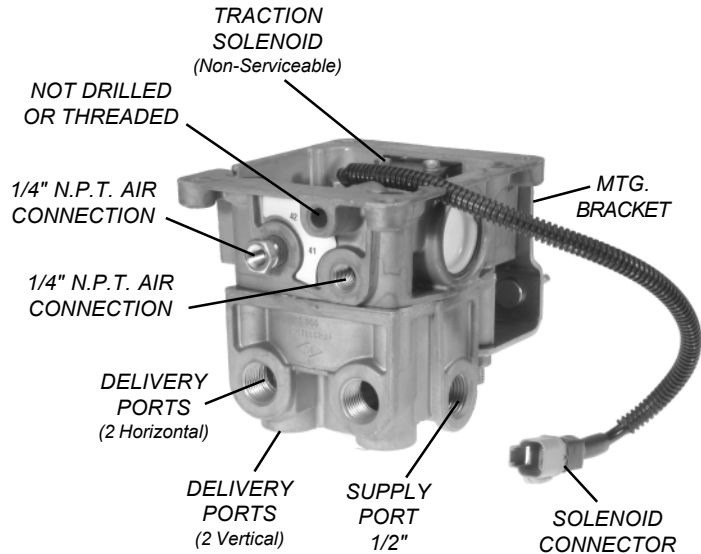


11	1	RETAINING RING
12	1	O-RING
13	1	CHECK VALVE
14	1	CHK VLV GUIDE
15	1	SPRING
16	2	O-RING
17	1	O-RING
18	1	O-RING



REMOTE MOUNT ATR-2

The remote mount version of the ATR-2 is designed to be mounted separate from the AntiLock/Traction controller and utilizes a cover. Service Replacement units without a cover are not intended for remote mounting.



ATR-2 CHANGEOVER	
O.E. Pc. No.	Service Pc. No.
109438	65539
109810	65663
550567	65509
550733	65539
550761	800296
550778	65663
5000076	800007
5000077	800007
5000322	65539
5000336	800031
5001965	65663
5002145	65663
5002146	65663
5002212	800031

ATR-2 CHANGEOVER	
O.E. Pc. No.	Service Pc. No.
5003412	800334
5004016	65663
5004860	800500
5005983	65663
5006149	800611
5006676	801101
5006677	801119
5006905	800007
5008973	800007
5009082	801119
5009337	801101
5009356	801119
5011361	801119

Solenoid Connector Styles



**DEUTSCH
DT04-2P CONNECTOR**

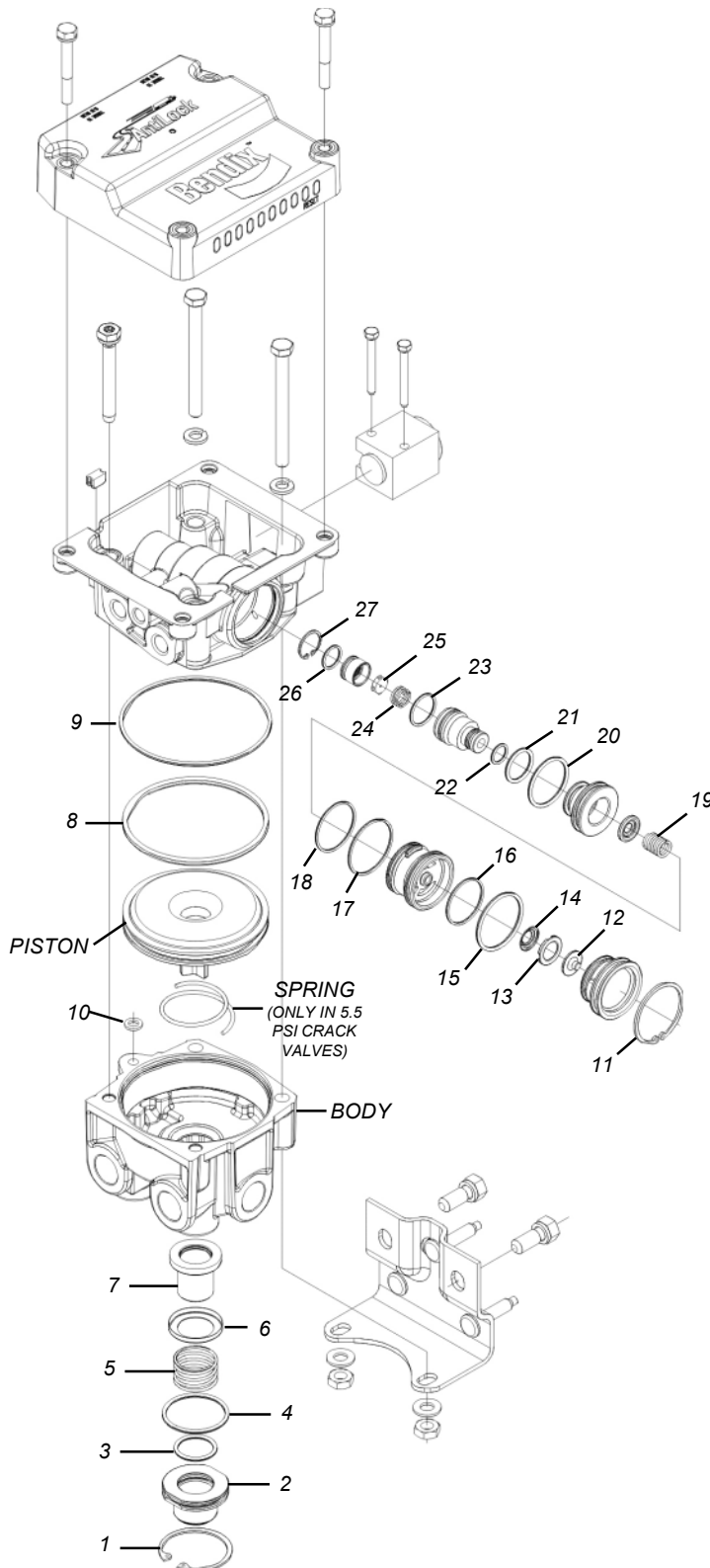


**DEUTSCH
DTM06-2S CONNECTOR**

Service Pc. No.	Del Horiz	Del Vert	Crack Press. PSI	Cover Plate	Mtg. Brkt. (1)	Solenoid Conn.	Comments
65509	1/2 NPT	---	4	---	5001657	DT04-2P	
65539	1/2 NPT	---	5.5	112570	5001657	DT04-2P	
65663	3/8 NPT	3/8 NPT	5.5	112570	5005776	DT04-2P	
800007	1/2 NPT	3/8 NPT	5.5	112570	5005776	DT04-2P	
800031	1/2 NPT	---	4	112570	5001657	DT04-2P	
800296	1/2 NPT	---	4	5001947	---	DT04-2P	
800334	1/2 NPT	3/8 NPT	4	5001947	---	DT04-2P	Connector has plastic screw
800500	1/2 NPT	3/8 NPT	5.5	5001947	---	DT04-2P	Connector has plastic screw
801101	1/2 PTC	Note 2	4	112570	5009412	DTM06-2S	Sup. Prts.: 2-1/2" PTC
801119	1/2 PTC	Note 2	4	112570	---	DTM06-2S	Sup. Prts.: 1-1/2" PT 1-1/2" PTC

Note 1: Mounting bracket 5001657 has three 5/16"-18 x 1.35" studs. Mounting bracket 5005776 has two 3/8"-16 and three 5/16"-18 threaded holes. Mounting bracket 5009412 has two M8x1.25-5H threaded holes and two .55" holes.

Note 2: One vertical delivery port is 3/8" pipe thread (PT) and one is 3/8" push-to-connect (PTC).



NOTE

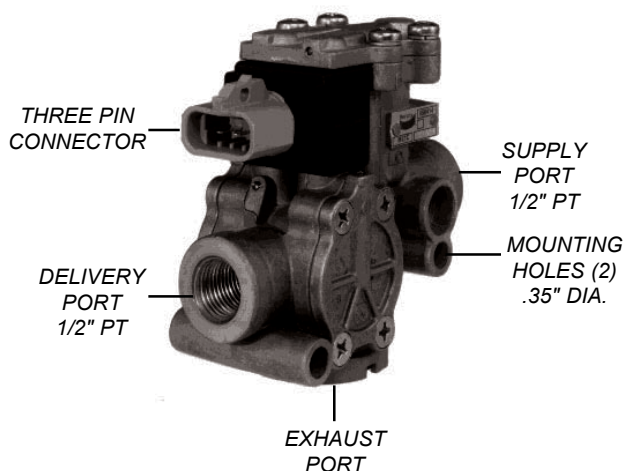
DETAIL AND SUB-ASSEMBLY PARTS OTHER THAN THOSE SHOWN IN THE MAINTENANCE KIT ARE NOT AVAILABLE FOR SERVICE.

MAINTENANCE KIT 109359

CONTAINS THE FOLLOWING PARTS KEYED TO THE EXPLODED ILLUSTRATION:

KEY NO.	QTY.	DESCRIPTION
1	1	RETAINING RING
2	1	EXH COVER CPL
3	1	O-RING
4	1	O-RING
5	1	VALVE SPRING
6	1	VALVE RETAINER
7	1	INL & EXH VALVE
8	1	O-RING
9	1	O-RING
10	1	SEALING RING
11	1	RETAINING RING
12	1	CHECK VALVE
13	1	CHK VLV GUIDE
14	1	SPRING
15	1	O-RING
16	1	O-RING
17	1	O-RING
18	1	O-RING
19	1	SPRING
20	1	O-RING
21	1	O-RING
22	1	O-RING
23	1	O-RING
24	1	SPRING
25	1	VALVE
26	1	O-RING
27	1	RETAINING RING

M-21 CHANGEOVER	
Pc. No.	Service Pc. No.
65337	65337
65412	65337
108575	65337
550414	65337
550436	65337
550443	65337
550530	65337
5002620	65337
5006703	65337



Interchange Note

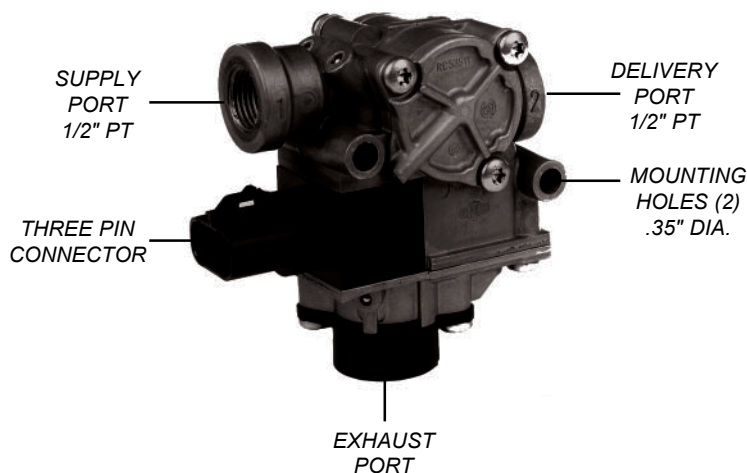
An M-21 can be replaced with an M-30 however note that the air lines (supply & delivery) do not enter the valves in the same position relative to the electrical connector. If two modulators are used on an axle or tandem, both should be changed to the same model.

The exhaust port of the M-21 and M-30 must point toward the road surface.

**SERVICE
PART NUMBER
065337**

M-22 Modulator

***M-22 Obsolete
Superseded By
M-30 Modulator***



M-22 TO M-30 CHANGEOVER

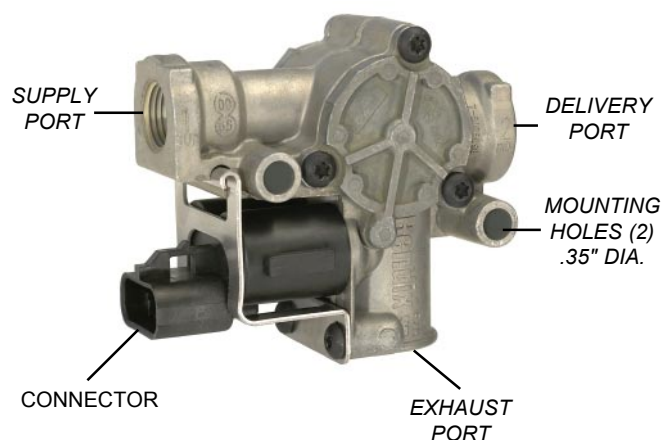
M-22 Pc. No.	M-30 Pc. No.
800014	800665
800357	800665
800451	800666
5000007	800665
5001108	800665
5001252	800968
5001764	800665
5001810	800665

M-22 TO M-30 CHANGEOVER

M-22 Pc. No.	M-30 Pc. No.
5001934	800665
5002108	800665
5002109	800665
5002744	800665
5003213	800665
5003737	800665
5004820	800666

Interchange Note

Both modulators on a single axle must be of the same type or model. When replacing a M-22 with an M-30 modulator, both M-22 modulators on the axle must be replaced at the same time so that the same modulator model is installed on each end of the axle. The M-22 and M-30 may be mixed on the same vehicle but not on the same axle.



**M-30 ANTILOCK
MODULATOR**

M-30 MODULATOR SERVICE PART NUMBERS				
Pc. No.	Supply Port	Delivery Port	Conn. Color ¹	Comments
800665	1/2" NPT	1/2" NPT	Black	
800968	1/2" NPT	1/2" NPT	Black	Silenced
801077	1/2" NPT	1/2" NPT	White	
801323	1/2" NPT	1/2" NPT	-----	Euro
801078	1/2" NPT	1/2" PTC	Black	
801079	1/2" NPT	1/2" PTC	White	
801080	1/2" NPT	1/2" STC	Black	
801081	1/2" NPT	1/2" STC	White	
800666	1/2" PTC	1/2" PTC	Black	
800794	5/8" PTC	1/2" NPT	Black	
800795	5/8" PTC	1/2" NPT	White	
801082	5/8" PTC	1/2" STC	Black	
801083	5/8" PTC	1/2" STC	White	

¹ The Black or White color of the M-30 electrical connector has no effect on operation and is used by some vehicle manufacturers to mate with like colored wiring connectors on the vehicle wiring harness.



STC
Air Connection
(Snap-To-Connect)



PTC
Air Connection
(Push-To-Connect)



NPT
Air Connection
(Pipe Thread)

M-30 MODULATOR PART NUMBER CHANGEOVER

M-30 CHANGEOVER	
Pc. No.	Service Pc. No.
5005312	800665
5005894	800665
5005895	800666
5005915	801078
5005918	801081
5006432	800666
5006625	800665
5006626	800666
5006658	800665
5006659	800665
5006678	800665
5006679	801077
5006680	800670
5006681	800671
5006682	800670
5006683	800671
5006874	800665
5006875	800665
5006876	800665

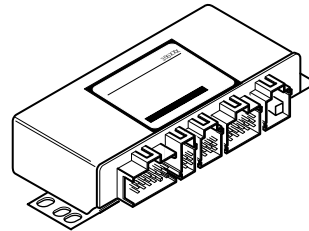
M-30 CHANGEOVER	
Pc. No.	Service Pc. No.
5007135	800665
5007891	800794
5007892	800795
5007893	800796
5007894	800797
5007895	800798
5007896	800799
5007897	800794
5007898	800795
5007899	800796
5007900	800797
5007901	800798
5007902	800799
5008128	800665
5008129	800665
5008487	800796
5008488	800797
5008539	800858
5008540	800859

M-30 CHANGEOVER	
Pc. No.	Service Pc. No.
5008541	800858
5008542	800859
5008545	800858
5008546	800859
5008926	800968
5008927	800968
5008951	800968
5008981	800665
5008982	800665
5009085	801083
5009086	801082
5009304	801077
5009305	801078
5009306	801079
5009308	801080
5009309	801081
5011025	801323
5011026	801323
5011027	801323

Truck, Bus, Coach

**Basic Generation 5 Control Unit
With Power Line Carrier (PLC)**

4-Channel ABS only, No Engine Data Link, Retarder Control
via Relay 300342



Basic Generation 4 Control Unit

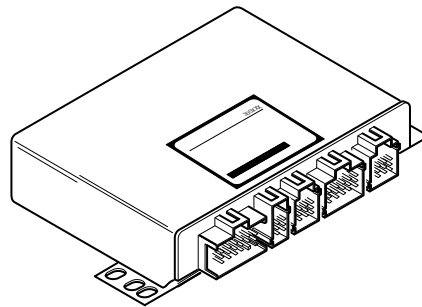
4-Channel ABS Only, No Engine Data Link, Basic Flanges,
Retarder Control via Relay 300222

**Standard Generation 5 Control Unit
With Power Line Carrier (PLC)**

6-Channel ABS/ATC, J1939 300344

6-S/6-M, ATC, Retarder Control via Data Link, J1939
(Special Order) 300366

4-S/4M, ATC, Retarder Control via Data Link, J1939
(Special Order)..... 300365



Standard Generation 4 Control Unit

4-Channel ABS/ATC, J1922 300223

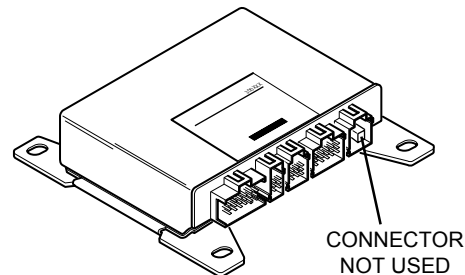
4-Channel ABS/ATC, J1939 300410

Changeover:

Previous model 300325 is replaced by 300410

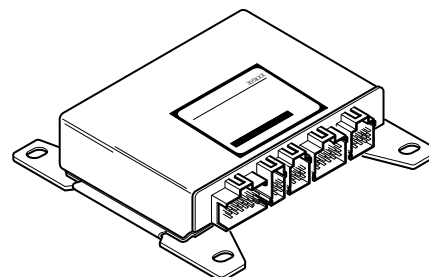
Previous model 300143 is replaced by 300410

Previous model 300209 is replaced by 300223



Standard Generation 4 Control Unit

6-Channel ABS/ATC, J1922 300126



Limited Stock of Earlier Models may be Available

300069 (Call for availability)

300125 (Once limited stock on hand is depleted, replacement part is 300223)

300144 (Once limited stock on hand is depleted, replacement part is 300344)

300239 (Once limited stock on hand is depleted, replacement part is 300223)

Truck, Bus, Coach

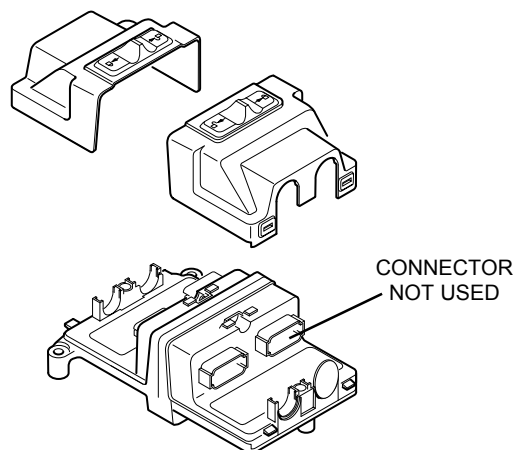
Basic Generation 5 Control Unit With Power Line Carrier (PLC)

4-Channel ABS only, No Engine Data Link 300343

Basic Generation 4 Control Unit

4-Channel ABS/ATC, J1922 300199

4-Channel ABS/ATC, J1939 300208



Standard Generation 5 Control Unit With Power Line Carrier (PLC)

6-Channel ABS/ATC, J1939 300345

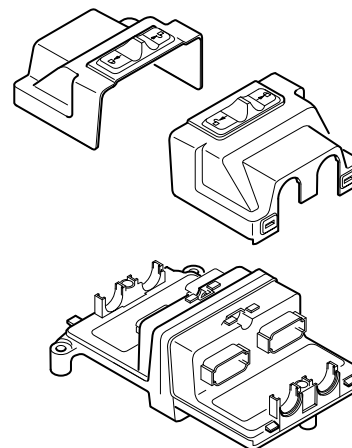
6-S/6-M, ATC, Retarder Control via Data Link, J1939
(Special Order) 300368

4-S/4M, ATC, Retarder Control via Data Link, J1939
(Special Order). 300367

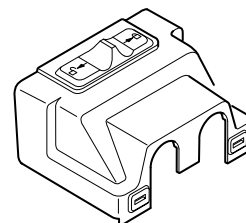
Standard Generation 4 Control Unit

6-Channel ABS/ATC, J1939 300149

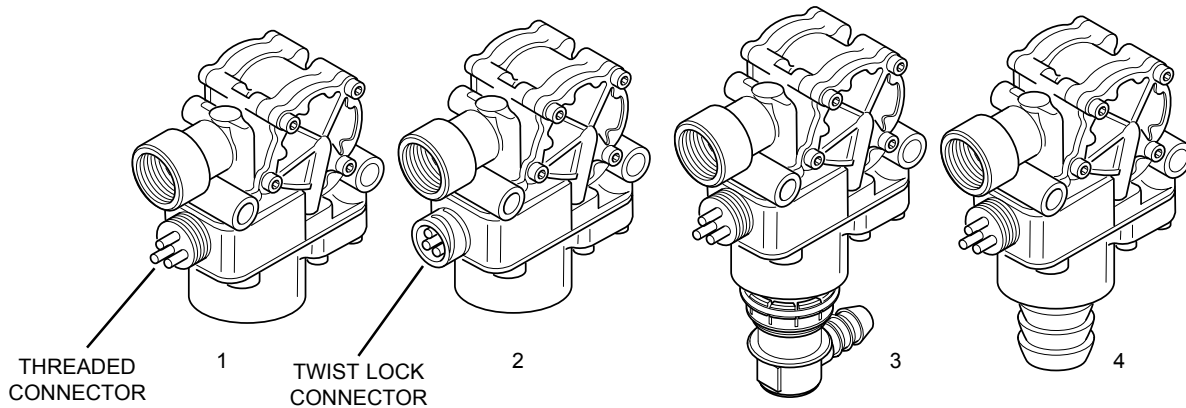
6-Channel ABS/ATC, J1939, 24 volt (Military) . . 300130



Replacement Cover. 300271



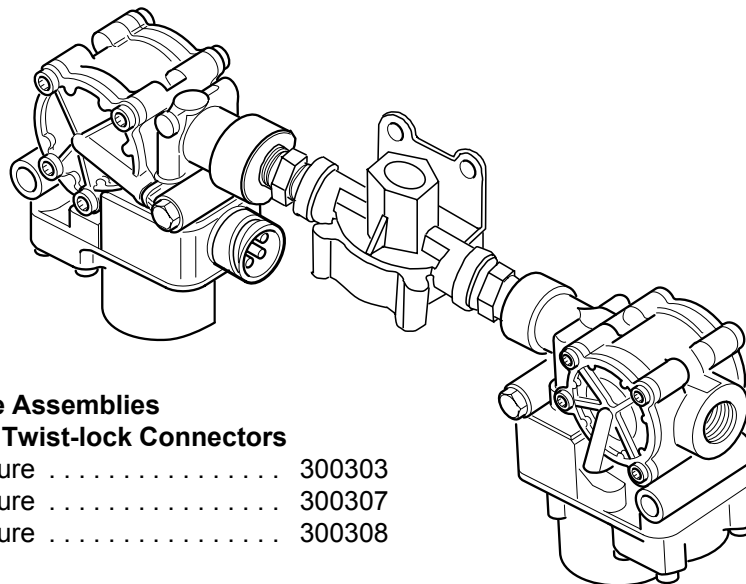
Truck/Tractor



Pressure Modulator Valves

(1) 12 volt, Threaded, Metric-Threaded Ports . . .	300073	} Two equivalent models are available
(1) 12 volt, Threaded, Metric-Threaded Ports . . .	300386	
(2) 12 volt, Twist-lock, NPT-Threaded Ports . . .	300280	} Two equivalent models are available
(2) 12 volt, Twist-lock, NPT-Threaded Ports . . .	300387	
(3) 24 volt, Military, with 90° Snorkel	300127	
(4) 24 volt, Military, with High Flow Snorkel . . .	300248	

**Truck/Tractor Steer Axle ABS Valve Assemblies
with Twist-Lock Connectors**



ABS Front Axle Valve Assemblies

All with 1/2 NPT, and Twist-lock Connectors

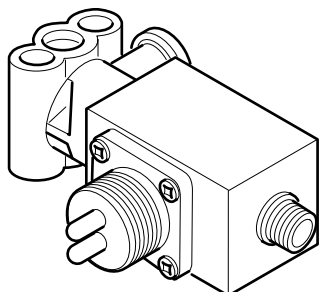
0-1 PSIG Crack Pressure	300303
3-4 PSIG Crack Pressure	300307
6-8 PSIG Crack Pressure	300308

Changeover:

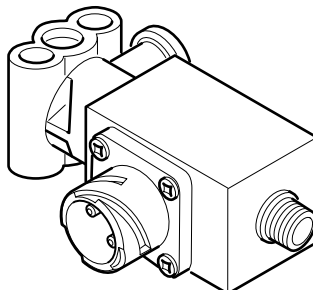
Previous model 300299 is replaced by 300303

Previous model 300300 is replaced by 300307

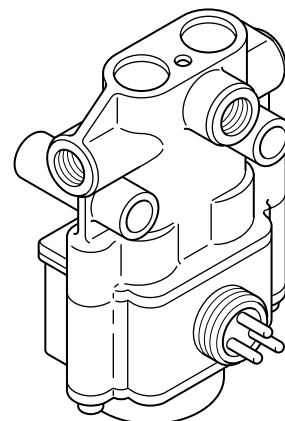
Previous model 300301 is replaced by 300308



1



2

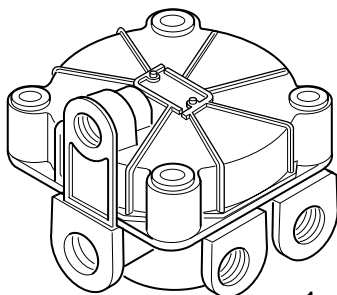


3

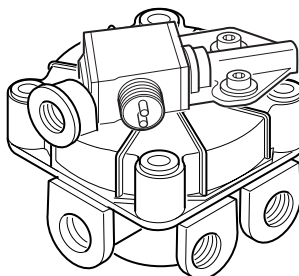
Traction Control Valves

- | | |
|--|--------|
| (1) 12 volt, Single Channel, Threaded Connectors | 300132 |
| (1) 24 volt, Military, Single Channel, Threaded Connectors | 300128 |
| (2) 12 volt, Single Channel, Twist-lock Connectors | 300354 |
| (3) Dual Channel, Threaded Connectors | 300074 |

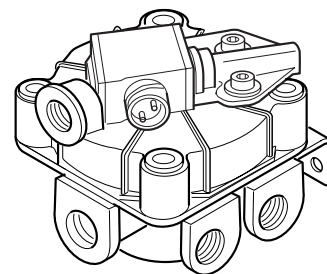
Truck/Tractor Relay Valves



1



2

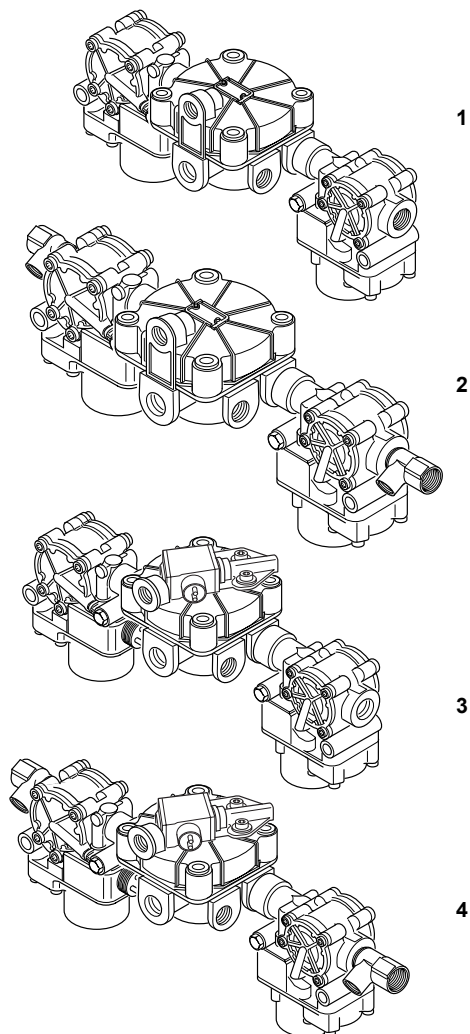


3

Four Port Tractor Relay Valves

- | | |
|--|--------|
| (1) 4.0 PSIG Crack Pressure | 300204 |
| (1) 5.5 PSIG Crack Pressure | 300205 |
| (2) 4.0 PSIG Crack Pressure, ATC with
Threaded Connectors | 300206 |
| (2) 5.5 PSIG Crack Pressure, ATC with
Threaded Connectors | 300207 |
| (3) 5.5 PSIG Crack Pressure, ATC with
Twist-Lock Connectors | 300317 |

**Rear Axle Valve Assemblies
 with Threaded Connectors**



**Rear Axle Valve Assemblies with Threaded
 Connectors**

(1) 4.0 PSIG Crack Pressure (fittings provided by OEM)	300202
(1) 5.5 PSIG Crack Pressure (fittings provided by OEM)	300203
(2) 4.0 PSIG Crack Pressure (two tee fittings)	300200
(2) 5.5 PSIG Crack Pressure (two tee fittings)	300201
(3) 4.0 PSIG Crack Pressure, ATC, (fittings provided by OEM)	300148
(4) 5.5 PSIG Crack Pressure, ATC, (two tee fittings)	300153

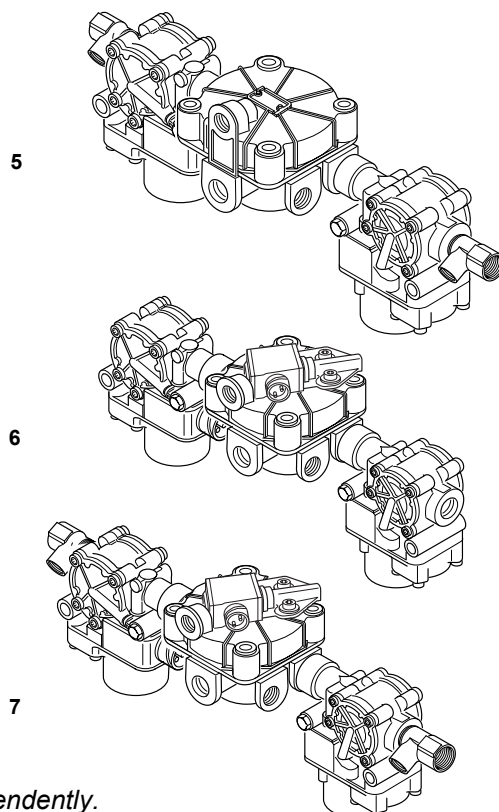
Changeover:

Previous model 300134 is replaced by 300202

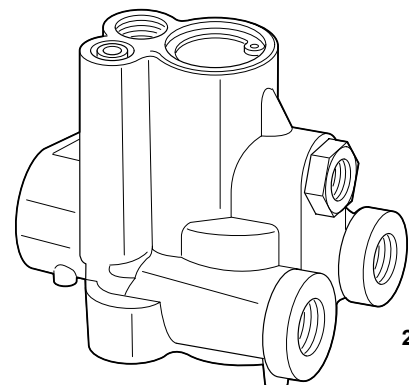
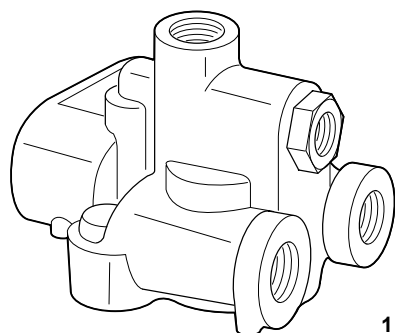
**Rear Axle Valve Assemblies
 with Twist-Lock Connectors**

**Four Port Rear Axle Valve Assemblies with
 Twist-Lock Connectors**

(5) 5.5 PSIG Crack Pressure (two tee fittings)	300311
(6) 5.5 PSIG Crack Pressure, ATC, (fittings provided by OEM)	300313
(7) 5.5 PSIG Crack Pressure, ATC, (two tee fittings)	300315



Note: Relay valve or modulator valves may be serviced independently.



Spring Brake Control Valves

(1) TEV (Spring Brake Priority) 300251

(2) STEV (Service Brake Priority) 300252

SENSOR CONNECTION

HARNESS CONNECTION

**Wheel End Speed Sensor Extension Harnesses**

3.3 ft. (1.0 m.)	300257
6.6 ft. (2.0 m.)	300258
9.8 ft. (3.0 m.)	300259
13.2 ft. (4.0 m.)	300260

SENSOR CONNECTION

ECU CONNECTION

**Wheel End Speed Sensor Extension Harnesses
with One End Unterminated**

6.6 ft. (2.0 m.)	300090
9.8 ft. (3.0 m.)	300091
16.4 ft. (5.0 m.)	300092
26.3 ft. (8.0 m.)	300093
32.8 ft. (10.0 m.)	300094
39.4 ft. (12.0 m.)	300095

VALVE CONNECTION

ECU CONNECTION

**Threaded Modulator Valve Extension Harnesses
with One End Unterminated**

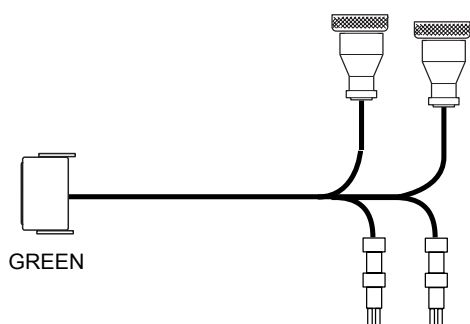
3.3 ft. (1.0 m.)	300113
9.8 ft. (3.0 m.)	300096
13.1 ft. (4.0 m.)	300097
19.7 ft. (6.0 m.)	300098
25.1 ft. (7.6 m.)	300384
29.5 ft. (9.0 m.)	300099
39.4 ft. (12.0 m.)	300100
49.2 ft. (15.0 m.)	300101

VALVE CONNECTION

ECU CONNECTION

**Bayonet Modulator Valve Extension Harnesses with
One End Unterminated**

25.1 ft. (7.6 m.)	300385
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Motor Coach Harnesses Gen 4 or 5

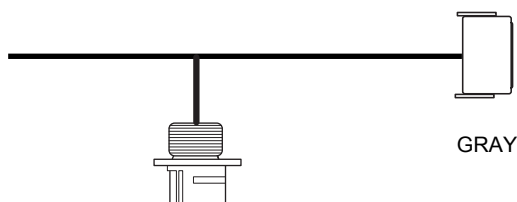
2S-2M, Rear, Four Channel Threaded Connector

Connectors 12 ft. (3.6 m.) and 10 ft. (3.0 m.),

Sensors 12 ft. (5.6 m.) 300241

Connectors 22 ft. (6.7 m.) and 20 ft. (6.1 m.),

Sensors 22 ft. (6.7 m.) 300320



Motor Coach Power and Diagnostic Harnesses Gen 4 or 5

ECU to breakout 28.0 ft. (8.5 m.),

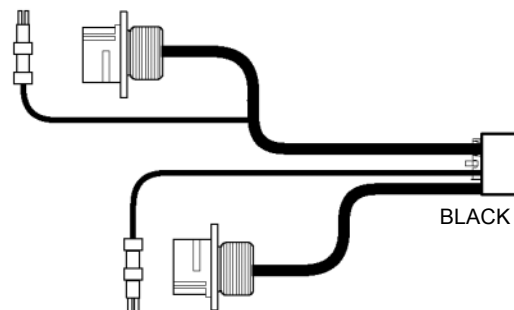
Breakout to SAE J1587 3.0 ft. (0.9 m.),

Breakout to electric panel 6.0 ft. (1.8 m.) 300242

ECU to breakout 24.0 ft. (7.3 m.),

Breakout to SAE J1587 3.0 ft. (0.9 m.),

Breakout to electric panel 6.0 ft. (1.8 m.) 300321



Motor Coach Front Chassis Harnesses

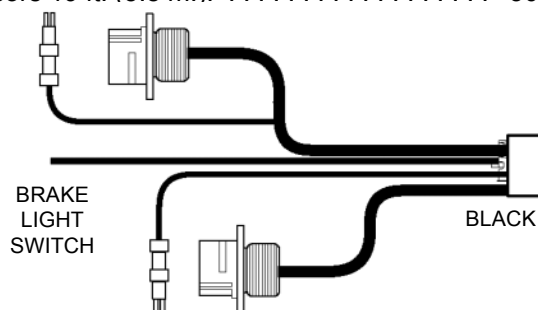
Four Channel, Threaded Connector

Connectors 20 ft. (6.1 m.) and 22 ft. (6.7 m.),

Sensors 23 ft. (7 m.) 300240

Connectors 18 ft. (5.5 m.) and 16 ft. (4.9 m.),

Sensors 19 ft. (5.8 m.) 300319



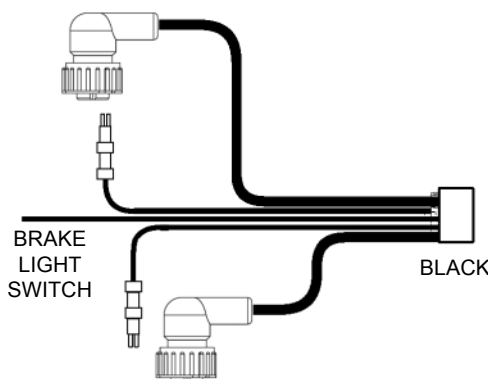
Motor Coach Front Chassis Harnesses

Four Channel, Threaded Connector

Connectors 16 ft. (4.9 m.) and 18 ft. (5.5 m.),

Sensors 19 ft. (5.8 m.),

Brake Light Switch Cable 25 ft. (7.6 m.) 300388



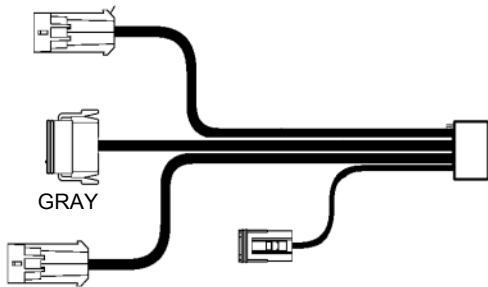
Motor Coach Front Chassis Harnesses

Four Channel, with Bayonet Connector

Connectors 18.7 ft. (5.7 m.),

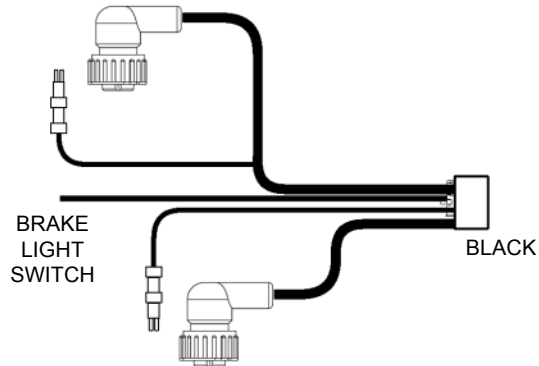
Sensors 20.7 ft. (6.3 m.) and 19.7 ft. (6.0 m.),

Brake Light Switch Cable 31 ft. (9.4 m.) 300396



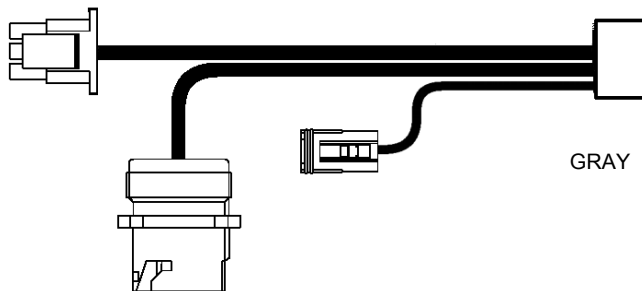
Power Harness

2.6 ft (0.8 m.), Packard Connectors 2.6 ft. (0.8 m.),
Deuch J1939 Connector 1.0 ft. (0.3 m.). 300182



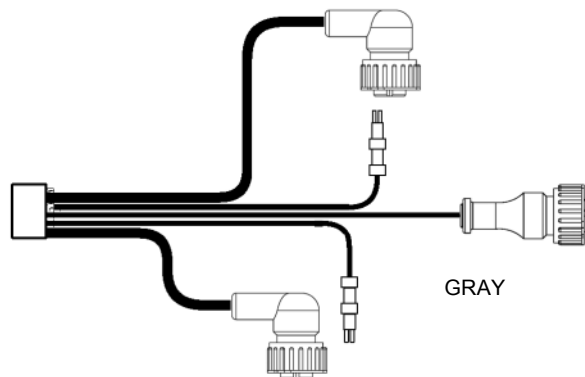
Motor Coach Front Chassis Harnesses

Four Channel, with Bayonet Connector
Connectors 16 ft. (4.9 m.) and 18 ft. (5.5 m.),
Sensors 20.7 ft. (6.3 m.) and 19.7 ft. (6.0 m.),
Brake Light Switch Cable 31 ft. (9.4 m.) 300394



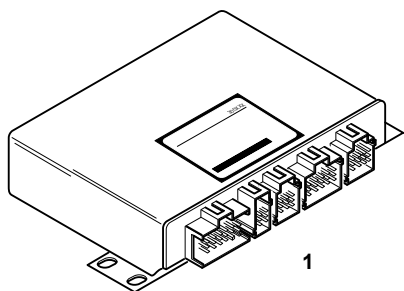
Power Harness

34.5 ft (10.5 m.), Deuch Connector 31 ft. (9.4 m.),
Deuch J1939 Connector 3.0 ft. (0.9 m.). 300390

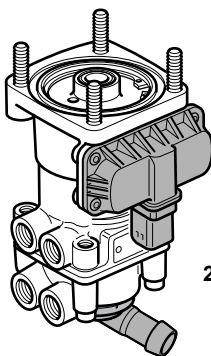


Rear Power Harness, 4 Channel, with ATC

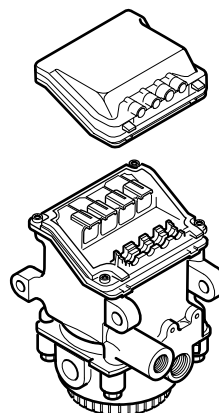
Modulator Connectors 20 ft. (6.1 m.) and 22 ft. (6.7 m.),
ATC Connector 16 ft. (4.9 m.),
Sensors 22 ft. (6.7 m.) 300395
Modulator Connectors 9 ft. (2.7 m.), ATC Connector 9 ft.
(2.7 m.), Sensors 9 ft. (2.7 m.) 300397



1



2



3

Electronically Controlled Brake System Components

(1) ECU, 12 volt 300158

(1) ECU, EBS 2.2 J1939 12 volt (Volvo) 300326

(2) Treadle Valve 300159

(3) Pressure Control Module, 1 Channel,
12 volt, Metric Threads 300160

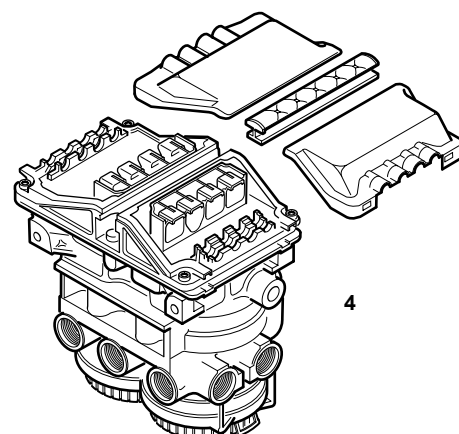
(4) Pressure Control Module, 2 Channels,
12 volt, Metric Threads 300161

(5) Trailer Control Module, 12 volt,
Metric Threads 300302

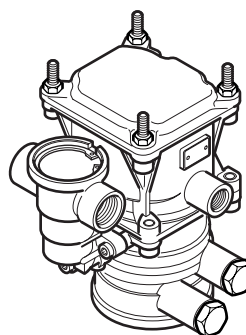
(6) Axle load Sensor
(Air Bag Pressure Sensor) 300162

(7) Sensor Extension Cable, 1.5 ft. (0.45 m.) . . 300322

(7) Sensor Extension Cable, 1.5 ft. (0.45 m.) . . 300323



4



5



6



7

Bendix ABS for Trailers

Antilock Systems and Components

Bendix EC-30 ABS

Pages 13-TLR-1 to 13-TLR-13



Gen 4 and Gen 5 ABS

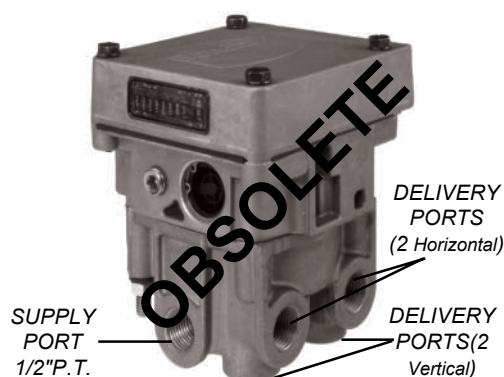
(formerly marketed under the Eaton® brand name)

Pages 13-TLR-14 to 13-TLR-20

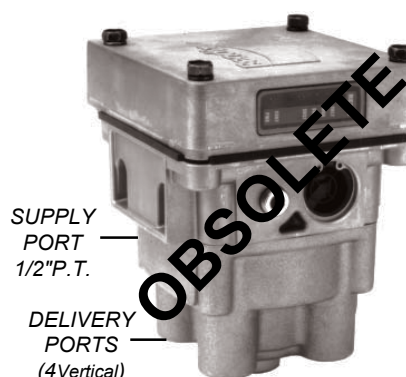


**IMPORTANT
REPLACEMENT INFORMATION**

The **MC-12** Modulator Controller and all of its subassemblies and components are **OBSOLETE** and must be replaced with a complete MC-30 assembly and pigtail wire harness. MC-30 conversion kits, which contain both the MC-30 and the appropriate pigtail wire harness, have been developed to assist in the change over. Refer to the MC-30 Conversion Kit Catalog Page for kit contents.



BRACKET MOUNTED MC-12



RESERVOIR MOUNTED MC-12

BRACKET MOUNTED MC-12 4 PSI CRACK PRESSURE		
MC-12 Pc. No.	Replace With MC-30 Kit	MC-30 Equivalent¹
65366	Kit Group 2	800820
550450	Kit Group 2	800820
800138	Kit Group 2	800820
5001628	Kit Group 2	800820

NOTE 1: MC-30 that is similar to the MC-12 shown in the left column

**IMPORTANT
REPLACEMENT KIT NOTE**

Each Kit Group (1, 2, & 3) contains five different replacement kit numbers. The difference between the five replacement kits is the type of connector used on the power lead of and the length of the power lead on the pigtail wiring harness included in the kit. Power leads can have either a 3, 4 or 5 pin connector and the lead can be either 19.5 feet or 5 feet in length.

See the MC-30 Conversion Kit Catalog Page for kit contents and additional information.

RESERVOIR MOUNTED MC-12 4 PSI CRACK PRESSURE		
MC-12 Pc. No.	Replace With MC-30 Kit	MC-30 Equivalent¹
65281	Kit Group 1	800737
65447	Kit Group 1	800737
65524	Kit Group 1	800737
550289	Kit Group 1	800737
550711	Kit Group 1	800737
800574	Kit Group 1	800737
800834	Kit Group 1	800737
5001139	Kit Group 1	800737
5005543	Kit Group 1	800737
5008309	Kit Group 1	800737

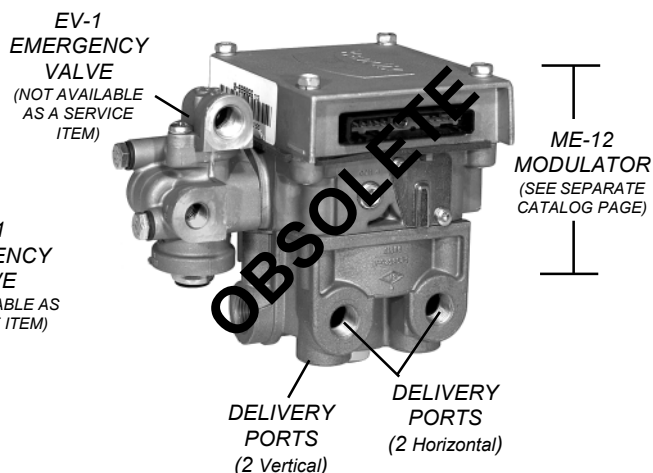
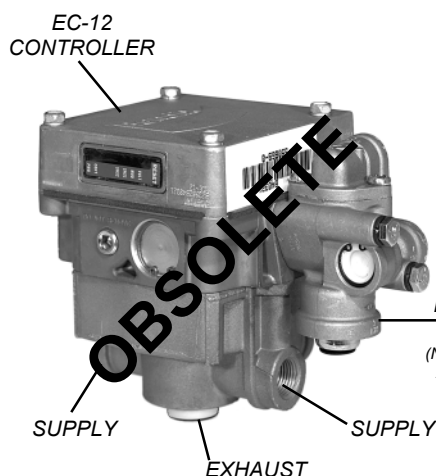
NOTE 1: MC-30 that is similar to the MC-12 shown in the left column

RESERVOIR MOUNTED MC-12 5.5 PSI CRACK PRESSURE		
MC-12 Pc. No.	Replace With MC-30 Kit	MC-30 Equivalent¹
65530	Kit Group 3	801132
550719	Kit Group 3	801132

NOTE 1: MC-30 that is similar to the MC-12 shown in the left column

IMPORTANT REPLACEMENT INFORMATION

The **MCE-12** Modulator Controller for converter dollies and all of its subassemblies and components are **OBSOLETE** and must be replaced with a complete MC-30 assembly and pigtail wire harness. MC-30 conversion kits, which contain the MC-30, the appropriate pigtail wire harness and air valves, have been developed to assist in the change over. Refer to the MC-30 Conversion Kit Catalog Page for kit contents.



BRACKET MOUNTED MCE-12 4 PSI CRACK PRESSURE

MCE-12 Pc. No.	Replace With MC-30 Kit	MC-30 Equivalent ¹
65297	Kit Group 4	800820
65396	Kit Group 4	800820
65422	Kit Group 4	800820
65444	Kit Group 4	800820
65639	Kit Group 4	800820
550714	Kit Group 4	800820
800368	Kit Group 4	800820
5003959	Kit Group 4	800820

NOTE 1: MC-30 that is similar to the MCE-12 shown in the left column

BRACKET MOUNTED MCE-12 5.5 PSI CRACK PRESSURE

MCE-12 Pc. No.	Replace With MC-30 Kit	MC-30 Equivalent ¹
800547	Kit Group 5	801133
5005226	Kit Group 5	801133

NOTE 1: MC-30 that is similar to the MCE-12 shown in the left column

IMPORTANT REPLACEMENT KIT NOTE

Each Kit Group (4 & 5) contains five different replacement kit numbers. The difference between the five replacement kits is the type of connector used on the power lead of and the length of the power lead on the pigtail wiring harness included in the kit. Power leads can have either a 3, 4 or 5 pin connector and the lead can be either 19.5 feet or 5 feet in length.

See the MC-30 Conversion Kit Catalog Page for kit contents and additional information.

**IMPORTANT
REPLACEMENT INFORMATION**

The **EC-12** Controller is **OBSOLETE** and must be replaced with a complete MC-30 modulator controller assembly. A series of MC-30 conversion kits have been developed to assist in the change over.

Because the EC-12 cannot be replaced without also replacing the modulator it controls, it is necessary to determine the style and crack pressure of the modulator assembly. A kit group containing five different kits is shown for each modulator style. The difference between the five replacement kits is the type of connector used on the power lead of and the length of the power lead on the pigtail wiring harness included in the kit. Power leads can have either a 3, 4 or 5 pin connector and the lead can be either 19.5 feet or 5 feet in length.

See the MC-30 Conversion Kit Catalog Page for kit contents and additional information.



EC-12 CONTROLLER

BRACKET MOUNTED MC-12



RESERVOIR MOUNTED MC-12



BRACKET MOUNTED MCE-12



**BRACKET MOUNTED MC-12
4 PSI CRACK PRESSURE**

Use one of the five kits in Kit
GROUP 2 to replace this style
MC-12

**RESERVOIR MOUNTED MC-12
4 PSI CRACK PRESSURE**

Use one of the five kits in Kit
GROUP 1 to replace this style
MC-12

**RESERVOIR MOUNTED MC-12
5.5 PSI CRACK PRESSURE**

Use one of the five kits in Kit
GROUP 3 to replace this style
MC-12

**BRACKET MOUNTED MCE-12
4 PSI CRACK PRESSURE**

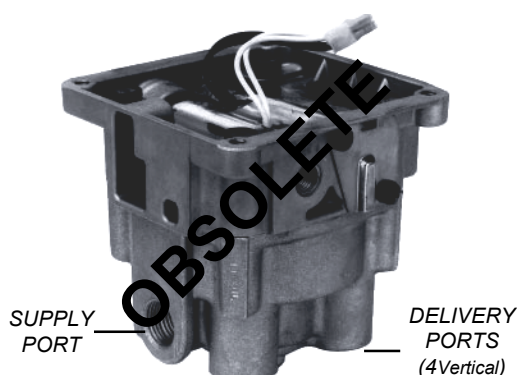
Use one of the five kits in Kit
GROUP 4 to replace this style
MC-12

**BRACKET MOUNTED MCE-12
5.5 PSI CRACK PRESSURE**

Use one of the five kits in Kit
GROUP 5 to replace this style
MC-12

IMPORTANT REPLACEMENT INFORMATION

The **M-12** Modulator is **OBSOLETE** and must be replaced with a complete MC-30 assembly and pigtail wire harness. MC-30 conversion kits, which contain both the MC-30 and the appropriate pigtail wire harness, have been developed to assist in the change over. Refer to the MC-30 Conversion Kit Catalog Page for kit contents.



RESERVOIR MOUNTED MC-12

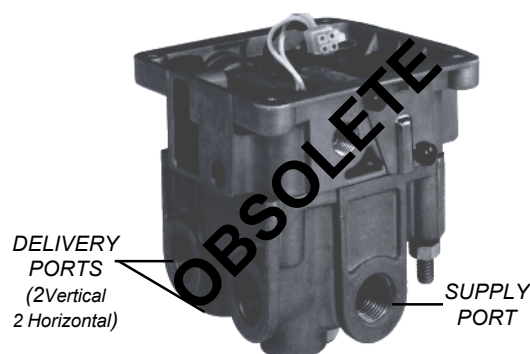
RESERVOIR MOUNTED M-12 4 PSI CRACK PRESSURE	
M-12 Pc. No.	Replace With MC-30 Kit
65282	Kit Group 1
65448	Kit Group 1
550291	Kit Group 1
550579	Kit Group 1

RESERVOIR MOUNTED MC-12 5.5 PSI CRACK PRESSURE	
MC-12 Pc. No.	Replace With MC-30 Kit
65531	Kit Group 3
550721	Kit Group 3

IMPORTANT REPLACEMENT KIT NOTE

Either of two (2) MC-30 kits can be used to replace each M-12. The difference between the two replacement kits shown for each M-12 is the length of the pigtail wiring harness included in the kit.

The first replacement kit part number shown contains a pigtail harness that is **5 feet in length** while the second kit part number contains a pigtail harness that is **19.5 feet in length**.



BRACKET MOUNTED MC-12

BRACKET MOUNTED M-12 4 PSI CRACK PRESSURE	
M-12 Pc. No.	Replace With MC-30 Kit
65346	Kit Group 2
65367	Kit Group 2
65392	Kit Group 2
550423	Kit Group 2
550452	Kit Group 2
550514	Kit Group 2

M-12 MAINTENANCE KIT 102802

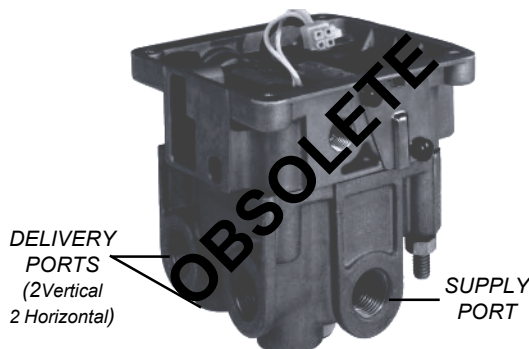
Is still available to service the lower relay valve section of the modulator. Solenoid and electrical components and subassemblies are not available. The following parts are contained in the kit:

QTY.	DESCRIPTION
1	RETAINING RING
1	EXH COVER CPL
1	O-RING
1	O-RING
1	VALVE SPRING
1	VALVE RETAINER
1	INL & EXH VALVE
1	O-RING
1	O-RING

Note: The gasket (560355) used between the controller and M-12 modulator must be purchased separately. Detail parts other than those listed above are not available for service.

**IMPORTANT
REPLACEMENT INFORMATION**

The **ME-12** Modulator is **OBSOLETE** and must be replaced with a complete MC-30 assembly and pigtail wire harness. MC-30 conversion kits, which contain the MC-30, appropriate pigtail wire harness and required air valving, have been developed to assist in the change over. Refer to the MC-30 Conversion Kit Catalog Page for kit contents.
A maintenance kit for the ME-12 is still available and shown here.



BRACKET MOUNTED ME-12

**BRACKET MOUNTED ME-12
4 PSI CRACK PRESSURE**

ME-12 Pc. No.	Replace With MC-30 Kit Pc. No.
65644	Kit Group 4

**BRACKET MOUNTED ME-12
5.5 PSI CRACK PRESSURE**

ME-12 Pc. No.	Replace With MC-30 Kit Pc. No.
800548	Kit Group 5

ME-12 MAINTENANCE KIT 102802

Is still available to service the lower relay valve section of the modulator. Solenoid and electrical components and subassemblies are not available. The following parts are contained in the kit:

QTY.	DESCRIPTION
1	RETAINING RING
1	EXH COVER CPL
1	O-RING
1	O-RING
1	VALVE SPRING
1	VALVE RETAINER
1	INL & EXH VALVE
1	O-RING
1	O-RING

Note: The gasket (560355) used between the controller and ME-12 modulator must be purchased separately. Detail parts other than those listed above are not available for service.

IMPORTANT REPLACEMENT KIT NOTE

Either of two (2) MC-30 kits can be used to replace each ME-12. The difference between the two replacement kits shown for each ME-12 is the length of the pigtail wiring harness included in the kit.

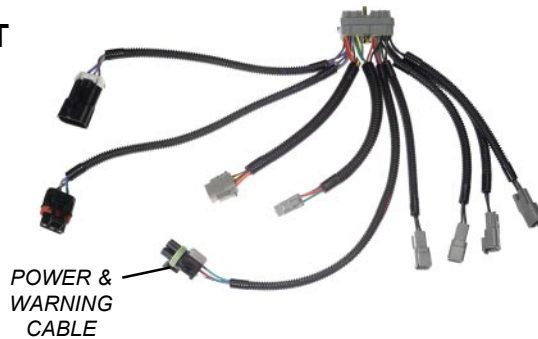
The first replacement kit part number shown contains a pigtail harness that is **5 feet in length** while the second kit part number contains a pigtail harness that is **19.5 feet in length**.



MC-30 BRKT. MT



MC-30 RES. MT.



PIGTAIL WIRE HARNESS

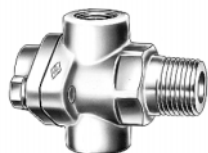
MC-12 TO MC-30 TRAILER CONVERSION KITS CONTAIN:

QTY.	PC. NO.	DESCRIPTION
1	SEE CHART	MC-30 MODULATOR CONTROLLER ASSY
1	SEE CHART	PIGTAIL WIRE HARNESS

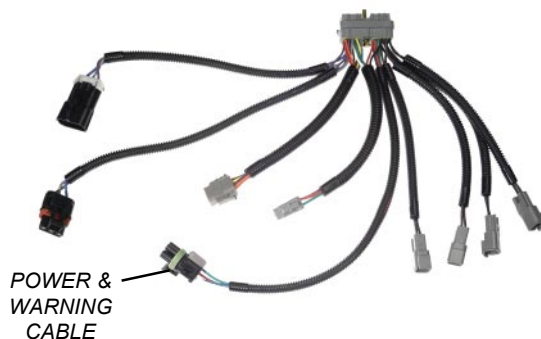
Kit Pc. Nos.	MC-30 Assembly			Pigtail Wire Harness		
	MC-30 Pc. No.	Mtg. Config.	Crack Press.	Assy. Pc. No.	Power Conn.	Lead Length
Kit Group 1						
5008564	800736	Res.	4 psi	800776	5 Pin	5 Ft.
5008567	800736	Res.	4 psi	800779	5 Pin	19.5 Ft.
5010953	800736	Res.	4 psi	5010681	4 Pin	17 In.
5010958	800736	Res.	4 psi	5010373	4 Pin	8 Ft.
5010963	800736	Res.	4 psi	5010680	3 Pin	17 In.
Kit Group 2						
5008565	800819	Brht.	4 psi	800776	5 Pin	5 Ft.
5008568	800819	Brht.	4 psi	800779	5 Pin	19.5 Ft.
5010954	800819	Brht.	4 psi	5010681	4 Pin	17 In.
5010959	800819	Brht.	4 psi	5010373	4 Pin	8 Ft.
5010964	800819	Brht.	4 psi	5010680	3 Pin	17 In.
Kit Group 3						
5009732	801132	Res.	5.5 psi	800776	5 Pin	5 Ft.
5009734	801132	Res.	5.5 psi	800779	5 Pin	19.5 Ft.
5010956	801132	Res.	5.5 psi	5010681	4 Pin	17 In.
5010961	801132	Res.	5.5 psi	5010373	4 Pin	8 Ft.
5010966	801132	Res.	5.5 psi	5010680	3 Pin	17 In.



MC-30 BRKT. MT



DC-4
PC. NO. 278615



PIGTAIL WIRE HARNESS



TR-3
PC. NO. 101450

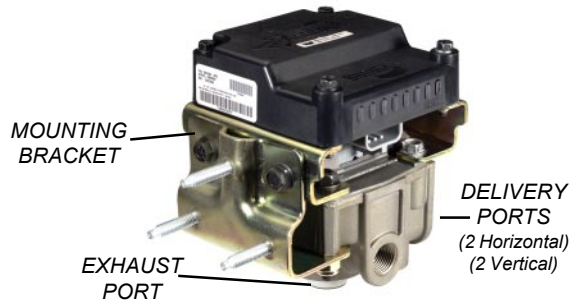
MCE-12 TO MC-30 DOLLY CONVERSION KITS CONTAIN:

QTY.	PC. NO.	DESCRIPTION
1	SEE CHART	MC-30 MODULATOR CONTROLLER ASSY
1	SEE CHART	PIGTAIL WIRE HARNESS
1	101450	TR-3 INVERSION VALVE
1	278615	DC-4 DOUBLE CHECK VALVE

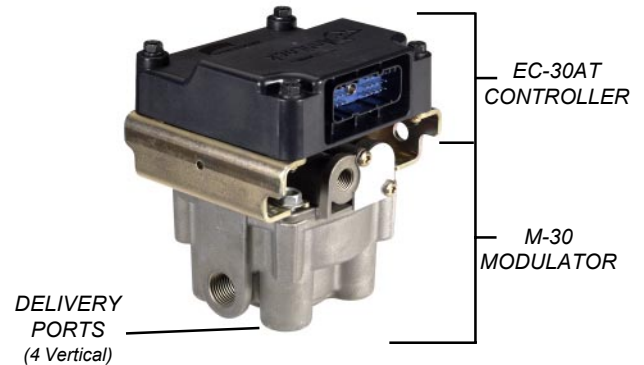
Kit Pc. Nos.	MC-30 Assembly			Pigtail Wire Harness		
	MC-30 Pc. No.	Mtg. Config.	Crack Press.	Assy. Pc. No.	Power Conn.	Lead Length
Kit Group 4						
5008566	800819	Brkt.	4 psi	800776	5 Pin	5 Ft.
5008560	800819	Brkt.	4 psi	800779	5 Pin	19.5 Ft.
5010955	800819	Brkt.	4 psi	5010681	4 Pin	17 In.
5010960	800819	Brkt.	4 psi	5010373	4 Pin	8 Ft.
5010965	800819	Brkt.	4 psi	5010680	3 Pin	17 In.
Kit Group 5						
5009733	801133	Brkt.	5.5 psi	800776	5 Pin	5 Ft.
5009735	801133	Brkt.	5.5 psi	800779	5 Pin	19.5 Ft.
5010957	801133	Brkt.	5.5 psi	5010681	4 Pin	17 In.
5010962	801133	Brkt.	5.5 psi	5010373	4 Pin	8 Ft.
5010967	801133	Brkt.	5.5 psi	5010680	3 Pin	17 In.

MC-30 MODULATOR CONTROLLER ASSEMBLY

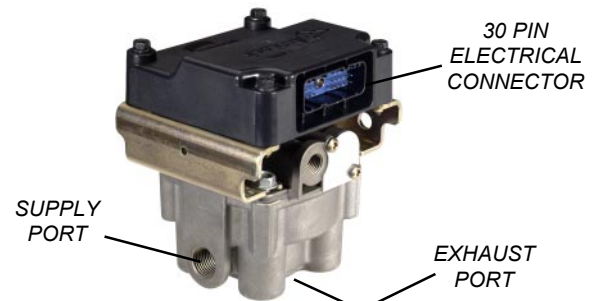
The MC-30 is the Bendix Antilock Braking System (ABS) controller assembly intended for application on air braked heavy duty trailers, semi-trailers and dollies. The Bendix MC-30 incorporates an integral LED diagnostic display with magnetic reset for easy diagnostics and fault code clearing. Blink code diagnostics are standard and advanced diagnostic tool support is also available. MC-30 supports PLC communication for warning lamp, full diagnostics capability. Other customized options are available in this feature rich ABS system. The ABS function of the MC-30 is designed to provide a towed vehicle with improved stability and control during braking while providing the maximum available braking force. For complete information see Bendix Service Data Sheet SD-13-4834.



BRACKET MOUNTED MC-30



RESERVOIR MOUNTED MC-30



RESERVOIR MOUNTED MC-30

MC-30 CHANGEOVER	
Pc. No.	Service Pc. No.
5007641	801241
5007642	801241
5007643	801242
5007644	801242
5007645	801241
5007646	801242
5008263	801245
5008264	801245
5008265	801247
5008266	801247
5008267	801245
5008268	801247

MC-30 CHANGEOVER	
Pc. No.	Service Pc. No.
5010569	801231
5010612	801241
5010613	801241
5010614	801241
5010615	801241
5010616	801241
5010617	801241
5010618	801242
5010619	801242
5010620	801242
5010621	801242

MC-30 CHANGEOVER	
Pc. No.	Service Pc. No.
5008502	801241
5008503	801241
5008504	801241
5008505	801242
5008506	801242
5008507	801242
5008533	801245
5008534	801245
5008535	801245
5008536	801247
5008537	801247
5008538	801247

MC-30 CHANGEOVER	
Pc. No.	Service Pc. No.
5010622	801242
5010623	801242
5010624	801243
5010625	801243
5010626	801243
5010627	801245
5010628	801245
5010629	801245
5010630	801245
5010631	801245
5010632	801245

MC-30 CHANGEOVER	
Pc. No.	Service Pc. No.
5009157	801248
5009526	801246
5009710	801243
5009711	801243
5009713	801249
5009714	801249
5009722	801132
5009723	801133
5010027	801243
5010028	801249
5010568	801230

MC-30 CHANGEOVER	
Pc. No.	Service Pc. No.
5010633	801246
5010634	801247
5010635	801247
5010636	801247
5010637	801247
5010638	801247
5010639	801247
5010640	801248
5010641	801249
5010642	801249
5010643	801249

MC-30 Serv. Pc. No.	Mtg.	EC-30 Serv. Pc. No.	M-30 Serv. Pc. No.	Crack Press.	EC-30 Rotn. (Note 1)	Horiz. Del. Ports	Vert. Del. Ports	Potential MC-30 Replcmt.	Comments (Note 2)
800736	Res.	800734	800740	4	90		4 - 3/8 PT	801241	No PLC
800737	Res.	800735	800740	4	90		4 - 3/8 PT	801242	
800819	Brkt.	800734	800821	4	90	2 - 3/8 PT	2 - 3/8 PT	801245	No PLC
800820	Brkt.	800735	800821	4	90	2 - 3/8 PT	2 - 3/8 PT	801247	
801033	Brkt.	800735	800821	4	270	2 - 3/8 PT	2 - 3/8 PT	801248	
801104	Brkt.	800734	800821	4	270	2 - 3/8 PT	2 - 3/8 PT	801246	No PLC
801132	Res.	800735	801135	5.5	90		4 - 3/8 PT	801243	
801133	Brkt.	800735	801136	5.5	90	2 - 3/8 PT	2 - 3/8 PT	801249	
801230	Res.	801229	800740	4	90		4 - 3/8 PT		Steer Axle Control
801231	Brkt.	801229	800821	4	90	2 - 3/8 PT	2 - 3/8 PT		Steer Axle Control
801241	Res.	801267	800740	4	90		4 - 3/8 PT		No PLC
801242	Res.	801268	800740	4	90		4 - 3/8 PT		
801243	Res.	801268	801135	5.5	90		4 - 3/8 PT		
801245	Brkt.	801267	800821	4	90	2 - 3/8 PT	2 - 3/8 PT		No PLC
801246	Brkt.	801267	800821	4	270	2 - 3/8 PT	2 - 3/8 PT		No PLC
801247	Brkt.	801268	800821	4	90	2 - 3/8 PT	2 - 3/8 PT		
801248	Brkt.	801268	800821	4	270	2 - 3/8 PT	2 - 3/8 PT		
801249	Brkt.	801268	801136	5.5	90	2 - 3/8 PT	2 - 3/8 PT		

NOTE 1: Rotation orientation is: looking at the modulator exhaust port and rotating clockwise. Rotation is from the centerline of the EC-30T (30 pin) connector to the centerline of the bracket for bracket mounted M-30s and from the centerline of the supply port to the centerline of the EC-30T (30 pin) connector for the reservoir mount M-30s.

NOTE 2: Effective March 1, 2001 all towed vehicles must transmit a signal to control an in-cab trailer ABS warning lamp. Trailers built after this date will transmit the status of the trailer ABS unit over the ignition power wire (blue wire of the J560 connector) using Power Line Carrier (PLC) communications. Trailer built before this date can use ABS controllers without the PLC Function.

EC-30 Trailer Controller



CONNECTOR

EC-30 ANTILOCK CONTROLLER

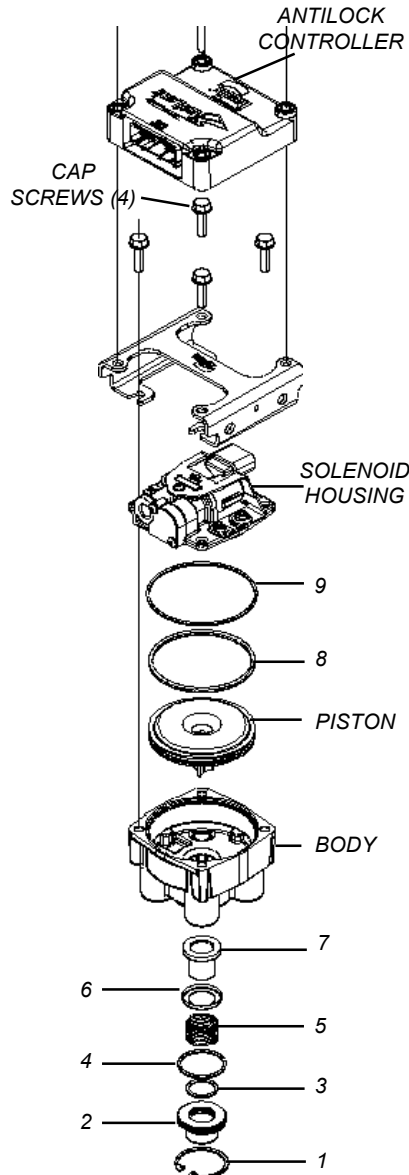
NOTE

The controller part number is found on the identification label attached to the edge of the housing and is lightly engraved on the top surface.

DIAGNOSTIC
WINDOW

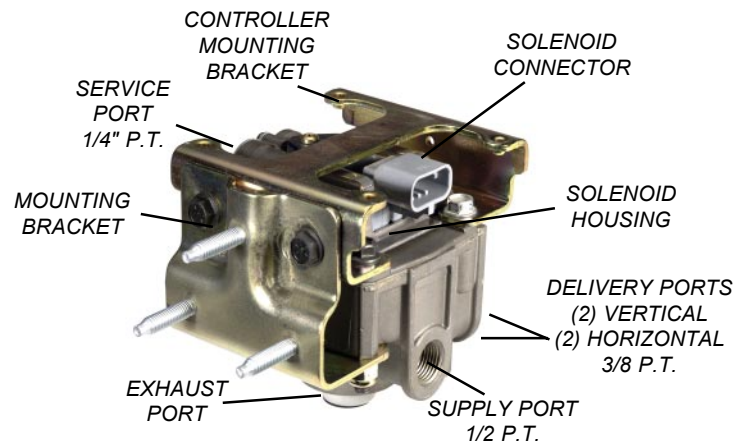
MC-30 TRAILER CONTROLLER CHANGEOVER	
Pc. No.	Service Pc. No.
5004357	800734
5004358	800735
5010172	801267
5010374	800734
5010375	800735
5010428	801166
5010431	801174
5010565	801267
5010566	801268
5010567	801229

MC-30 Serv. Pc. No.	Comments	Potential Replacement
800734	NO PLC	801267
800735		801268
801229	AXLE STEER	
801267	NO PLC	
801268		

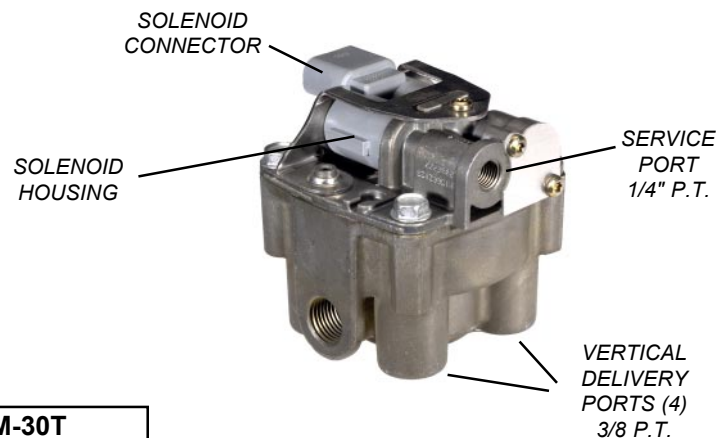


MAINTENANCE KIT 102802
CONTAINS THE FOLLOWING PARTS
KEYED TO THE ILLUSTRATION
ABOVE:

KEY NO.	QTY.	DESCRIPTION
1	1	RETAINING RING
2	1	EXH COVER CPL
3	1	O-RING
4	1	O-RING
5	1	VALVE SPRING
6	1	VALVE RETAINER
7	1	INL & EXH VALVE
8	1	O-RING



BRACKET MOUNT M-30T



RESERVOIR MOUNT M-30T

M-30T CHANGEOVER	
Pc. No.	Service Pc. No.
5007658	800740
5007660	800741
5008271	800821
5009716	801134
5009718	801135
5009720	801136
5009724	801134
5009725	801135
5009726	801136

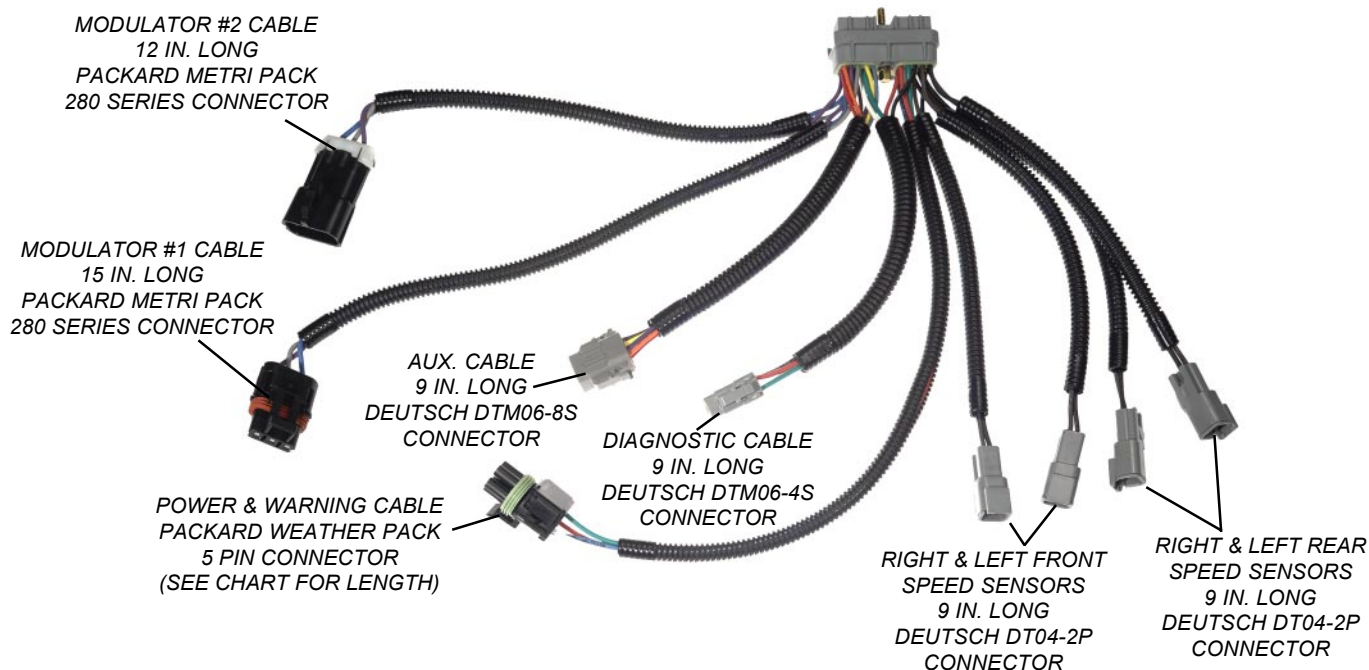
Service Pc. No.	Valve Style	Controller Mtg. Brkt.	Cover Rotatn.	Crack Press.
800741	RES. MT.	NO	90	4 psi
801134	RES. MT.	NO	90	5.5 psi
800740	RES. MT.	YES	90	4 psi
801135	RES. MT.	YES	90	5.5 psi
800821	BRKT. MT.	YES	90	4 psi
801136	BRKT. MT.	YES	90	5.5 psi

NOTE 1: Rotation orientation is: looking at the modulator exhaust port and rotating clockwise. Rotation is from the centerline of the control port to the centerline of the mounting bracket for bracket mounted M-30 and from the centerline of the supply port to the centerline of the control port for all other M-30s.

CATALOG 13-TLR-12

Antilock

Trailer MC-30 Pigtail Cable Assy.



CHANGEOVER

O.E. Pc. No.	Service Pc. No.
5006240	800775
5007819	800776
5007820	800777
5007821	800778
5007822	800779
5007823	800780
5007824	800781
5007825	800782
5007826	800783
5007827	800784
5007828	800785
5007829	800786
5007830	800787
5008731	800956
5008732	800957
5008753	800935
5008754	800943
5008755	800951
5008756	800936
5008757	800937
5008758	800938
5008759	800939
5008760	800940
5008761	800941
5008762	800942
5008763	800944
5008764	800945
5008765	800946
5008766	800947
5008767	800948
5008768	800949
5008769	800950
5008770	800952

Service Pc. No.	Mod. Cable #2	Aux. Cable	Diag. Cable	Pwr./Warning Length	Right/Left Rear Sen.
800775	NO	NO	NO	1.4 FT.	NO
800776	NO	NO	NO	5.0 FT.	NO
800777	NO	NO	NO	10.0 FT.	NO
800778	NO	NO	NO	14.9 FT.	NO
800779	NO	NO	NO	19.5 FT.	NO
800780	NO	NO	YES	1.4 FT.	NO
800956	NO	NO	YES	5.0 FT.	NO
800957	NO	NO	YES	10.0 FT.	NO
800935	NO	NO	YES	14.9 FT.	NO
800936	NO	NO	YES	19.5 FT.	NO
800781	NO	YES	YES	1.4 FT.	NO
800782	YES	NO	NO	1.4 FT.	NO
800937	YES	NO	NO	5.0 FT.	NO
800938	YES	NO	NO	10.0 FT.	NO
800939	YES	NO	NO	14.9 FT.	NO
800940	YES	NO	NO	19.5 FT.	NO
800783	YES	NO	YES	1.4 FT.	NO
800941	YES	NO	YES	5.0 FT.	NO
800942	YES	NO	YES	10.0 FT.	NO
800943	YES	NO	YES	14.9 FT.	NO
800944	YES	NO	YES	19.5 FT.	NO
800784	YES	YES	YES	1.4 FT.	NO
800785	YES	NO	NO	1.4 FT.	YES
800945	YES	NO	NO	5.0 FT.	YES
800946	YES	NO	NO	10.0 FT.	YES
800947	YES	NO	NO	14.9 FT.	YES
800948	YES	NO	NO	19.5 FT.	YES
800786	YES	NO	YES	1.4 FT.	YES
800949	YES	NO	YES	5.0 FT.	YES
800950	YES	NO	YES	10.0 FT.	YES
800951	YES	NO	YES	14.9 FT.	YES
800952	YES	NO	YES	19.5 FT.	YES
800787	YES	YES	YES	1.4 FT.	YES



CHANGEOVER	
O. E. Pc. No.	Service Pc. No.
5007833	800790
5009193	801038
5009194	801039

Service Pc. No.	Cable Length
800790	10 Ft.
801038	6 Ft.
801039	7 Ft.

Basic Trailer ECUs and Hardware Components

**Basic Generation 5 Control Unit
With Power Line Carrier (PLC)**

Basic 2S-1M only 300340

**Basic Generation 5 Control Unit for Dollies
With Power Line Carrier (PLC)**

Basic 2S-1M only 300405

Limited Stock of Earlier Model may be Available

Basic Generation 4 Control Unit
Basic 2S-1M only 300253

*(Once limited stock on hand is depleted, replacement part is
300340)*

Basic Harnesses

2 Sensors, 1 valve, 3.3 ft. (1 m.) 300263

2 Sensors, 1 valve, 9.8 ft. (3 m.) 300264

2 Sensors, 1 valve, 15.1 ft. (4.6 m.) 300262

2 Sensors, 1 valve, 19.7 ft. (6.0 m.) 300265

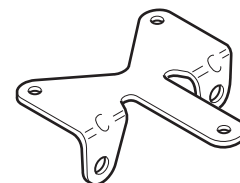
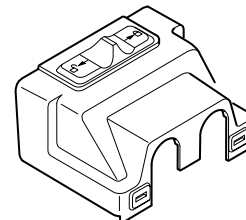
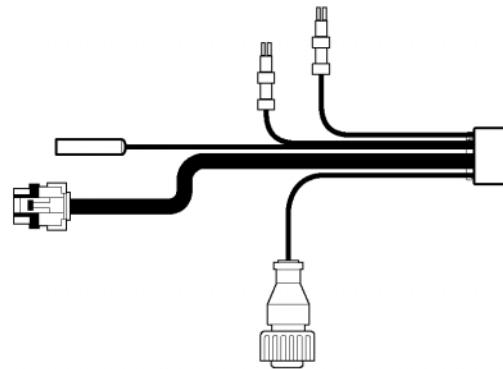
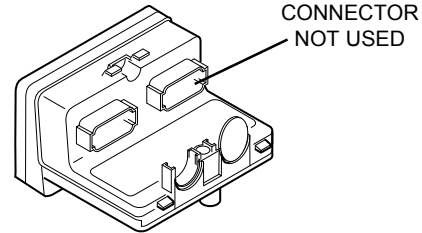
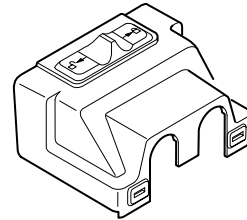
2 Sensors, 1 valve, 24.6 ft. (7.5 m.) 300298

Diagnostic Extension Harness

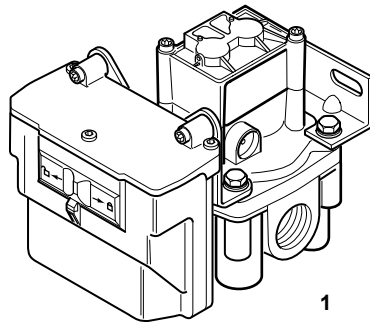
8 ft. (2.4 m.) 300281

Replacement Cover 300271

Replacement Bracket 300270

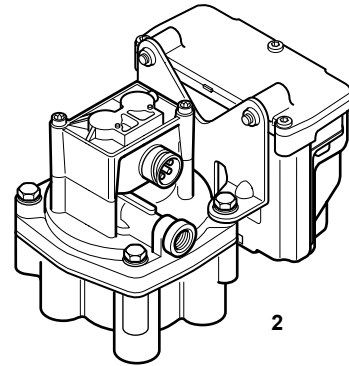


Basic Trailer ABS



1

(1) Relay Valve with Gen 5 ECU (300340), (PLC), 4.0 PSIG Crack Pressure, 4 Delivery Ports.
Frame-mounted with Bracket 300358



2

(2) Relay Valve with Gen 5 ECU (300340), (PLC), 4.0 PSIG Crack Pressure, 4 Delivery Ports.
3/4 NPT Tank-mounted 300360

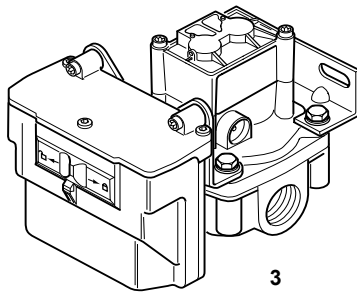
Limited Stock of Earlier Model may be Available

Relay Valve with Gen 4 ECU (300253), 4.0 PSIG Crack Pressure, 4 Delivery Ports. Frame-mounted with Bracket 300267
(Once limited stock on hand is depleted, replacement part is 300358)

Limited Stock of Earlier Model may be Available

Relay Valve with Gen 4 ECU (300253), 4.0 PSIG Crack Pressure, 4 Delivery Ports.
3/4 NPT Tank-mounted 300269
(Once limited stock on hand is depleted, replacement part is 300360)

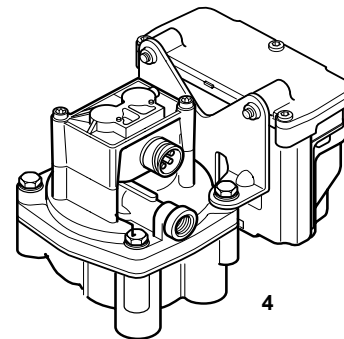
Limited Stock of Earlier, Two Delivery Port Models, may be Available



3

Trailer ABS 2 Delivery Port Models

(3) Relay Valve with Gen 5 ECU (300340), (PLC), 4.0 PSIG Crack Pressure. Frame-mounted with Bracket 300357
(Once limited stock on hand is depleted, replacement part is 300358, 2 pipe plugs required.)
(3) Relay Valve with Gen 4 ECU (300253) 4.0 PSIG Crack Pressure. Frame-mounted with Bracket 300266
(Once limited stock on hand is depleted, replacement part is 300357)
(3) Dolly Relay Valve with Gen 4 ECU (300253) 4.0 PSIG Crack Pressure. Frame-mounted with Bracket 300406



4

(4) Relay Valve with Gen 5 ECU (300340), (PLC), 4.0 PSIG Crack Pressure.
3/4 NPT Tank-mounted 300359
(Once limited stock on hand is depleted, replacement part is 300360, 2 pipe plugs required.)
(4) Relay Valve with Gen 4 ECU (300253), 4.0 PSIG Crack Pressure.
3/4 NPT Tank-mounted 300268
(Once limited stock on hand is depleted, replacement part is 300359)

Note: Relay valve or modulator valves may be serviced independently.

Standard Trailer ECUs

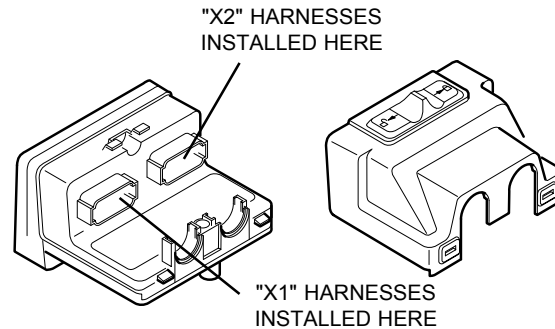
Standard Generation 5 Control Unit With Power Line Carrier (PLC)

Standard 4S-2M, 2S-2M, 2S-1M, Side Control . . . 300341

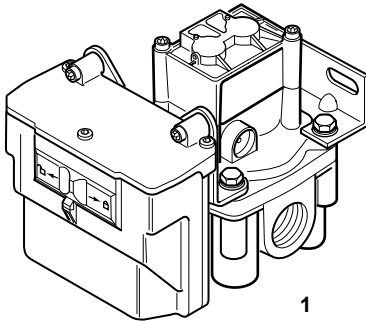
Limited Stock of Earlier Model may be Available

Standard Generation 4 Control Unit
Standard 4S-2M, 2S-2M, 2S-1M,
Side Control 300183

*(Once limited stock on hand is depleted, replacement part is
300341)*



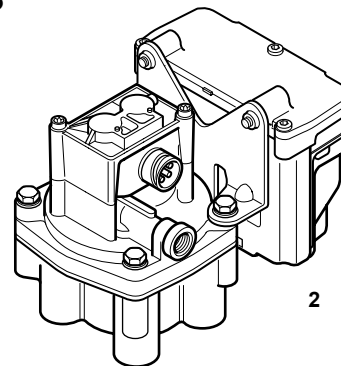
Standard Trailer ABS



(1) Relay Valve with Gen 5 ECU (300341), (PLC), 4.0
PSIG Crack Pressure, 4 Delivery Ports. Frame-
mounted with Bracket 300362

Changeover:

Previous Gen 4 version 300217 is replaced by 300362.

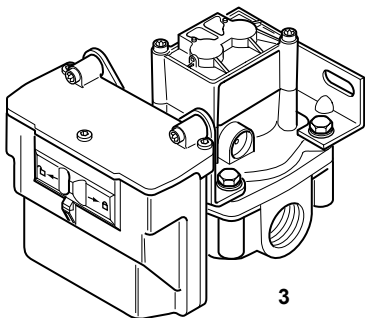


(2) Relay Valve with Gen 5 ECU (300341), (PLC), 4.0
PSIG Crack Pressure, 4 Delivery Ports.
3/4 NPT Tank-mounted 300364

Changeover:

Previous Gen 4 version 300213 is replaced by 300364.

Limited Stock of Earlier, Two Delivery Port Models, may be Available

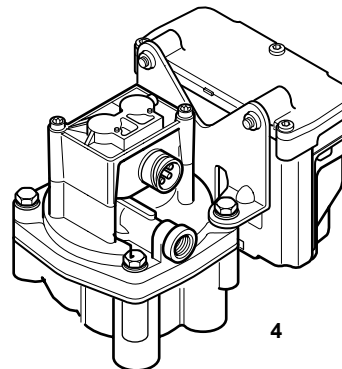


Two Delivery Port Models

(3) Relay Valve with Gen 5 ECU (300341)
(PLC), 4.0 PSIG Crack Pressure.
Frame-mounted with Bracket 300361
(Once limited stock on hand is depleted,
replacement part is 300362, 2 pipe plugs required.)

Changeover:

Previous Gen 4 version 300216 is replaced by 300361.



(4) Relay Valve with Gen 5 ECU (300341)
(PLC), 4.0 PSIG Crack Pressure.
3/4 NPT Tank-mounted 300363
(Once limited stock on hand is depleted,
replacement part is 300364, 2 pipe plugs required.)

Changeover:

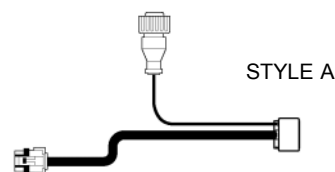
Previous Gen 4 version 300212 is replaced by 300363.

Note: Relay valve or modulator valves may be serviced independently.

Standard Trailer Hardware Components See opposite page for X1 and X2 Harness installation.

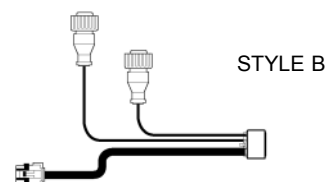
X1 - Style A, 1 valve

3.3 ft. (1.0 m.)	300232
9.8 ft. (3.0 m.)	300244
15.1 ft. (4.6 m.)	300220
19.7 ft. (6.0 m.)	300245
24.6 ft. (7.5 m.)	300297



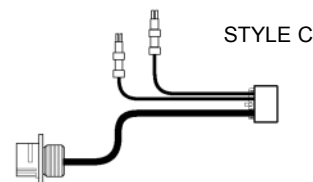
X1 - Style B, 2 valves [all have one valve harness of 1.65 ft (0.5 m.)]

3.3 ft. (1.0 m.), second valve harness 3.3 ft. (1.0 m.)	300231
3.3 ft. (1.0 m.), second valve harness 21.0 ft. (6.4 m.)	300348
3.3 ft. (1.0 m.), second valve harness 38.9 ft. (11.9 m.)	300334
9.8 ft. (3.0 m.), second valve harness 3.3 ft. (1.0 m.)	300246
9.8 ft. (3.0 m.), second valve harness 21.0 ft. (6.4 m.)	300347
9.8 ft. (3.0 m.), second valve harness 38.9 ft. (11.9 m.)	300333
15.1 ft. (4.6 m.), second valve harness 3.3 ft. (1.0 m.)	300221
15.1 ft. (4.6 m.), second valve harness 21.0 ft. (6.4 m.)	300349
15.1 ft. (4.6 m.), second valve harness 38.9 ft. (11.9 m.)	300335
19.7 ft. (6.0 m.), second valve harness 3.3 ft. (1.0 m.)	300247
19.7 ft. (6.0 m.), second valve harness 21.0 ft. (6.4 m.)	300346
19.7 ft. (6.0 m.), second valve harness 38.9 ft. (11.9 m.)	300332



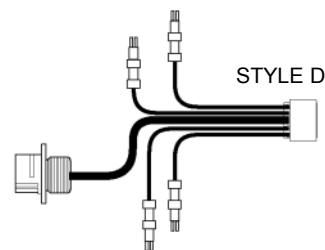
X2 - Style C, 2 Sensor Extension Harness, Full Diagnostics

5.9 ft. (1.8 m.) Sensor Harnesses, 9.8 ft. (3.0 m.) Diagnostic Harness	300218
7.9 ft. (2.4 m.) Sensor Harnesses, 9.8 ft. (3.0 m.) Diagnostic Harness	300254



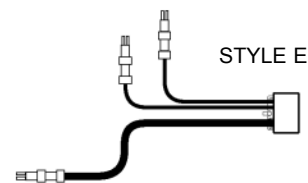
X2 - Style D, 4 Sensor Extension Harness, Full Diagnostics

Two 5.9 ft. (1.8 m.) and two 7.9 ft. (2.4 m.) Sensor Harnesses, 9.8 ft. (3.0 m.) Diagnostic Harness	300219
0.7 ft. (0.2 m.) Sensor Harnesses, 9.8 ft. (3.0 m.) Diagnostic Harness	300374
7.9 ft. (2.4 m.) Sensor Harnesses, 9.8 ft. (3.0 m.) Diagnostic Harness	300256



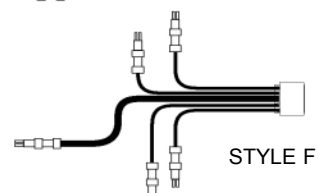
X2 - Style E, 2 Sensor Extension Harness, Blink-code Diagnostics

5.9 ft. (1.8 m.) Sensor Harnesses, 9.8 ft. (3.0 m.) Diagnostic Harness	300233
5.9 ft. (1.8 m.) Sensor Harnesses, 5.9 ft. (1.8 m.) Diagnostic Harness	300282
8.0 ft. (2.4 m.) Sensor Harnesses, 5.9 ft. (1.8 m.) Diagnostic Harness	300255



X2 - Style F, 4 Sensor Extension Harness, Blink-code Diagnostics

Two 6.0 ft. (1.8 m.) and two 8.0 ft. (2.4 m.) Sensor Harnesses, 10.0 ft. (3.0 m.) Diagnostic Harness	5011721
Four 8.0 ft. (2.4 m.) Sensor Harnesses, 10.0 ft. (3.0 m.) Diagnostic Harness	5011722

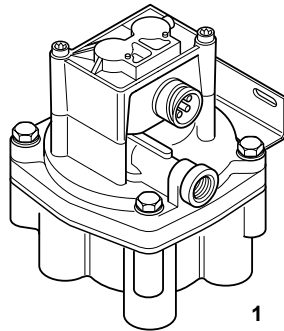


X2 - Style G, Power Harness

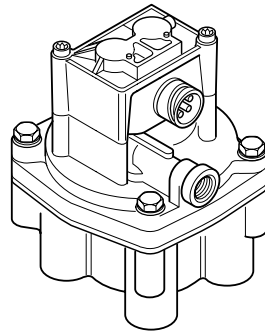
Power Harness, with Warning Light Bullet 39.6 ft. (12.0 m.)	300225
Power Harness, with Warning Light Bullet 49.2 ft. (15.0 m.)	300226
Power Harness, with Warning Light Bullet 65.6 ft. (20.0 m.)	300227



**Trailer Modulator Relay Valves (Without ECU). Used with Gen 4 & 5 ECUs.
Twist-Lock Connectors**



1



2

Note: Where 2 port valve is required, unused ports may be plugged.

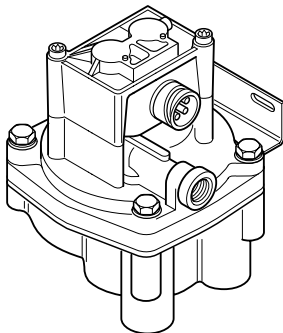
Trailer Relay Valves

Twist-Lock Connectors, 4 PSIG Crack Pressure

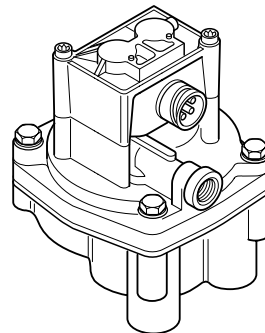
(1) 4 Delivery ports, frame-mounted with bracket, for use with 4 type-30 chambers. 300215

(2) 4 Delivery ports, 3/4" NPT tank-mounted, for use with 4 type-30 chambers. 300193

Limited Stock of Earlier, Two Delivery Port Models, may be Available



3



4

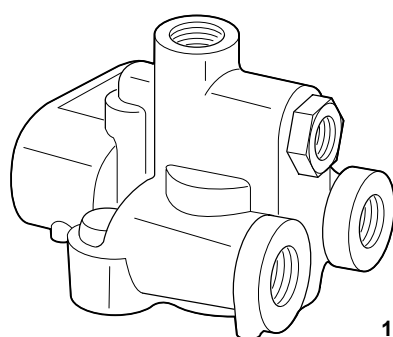
Trailer Relay Valves

Twist-Lock Connectors, 4 PSIG Crack Pressure

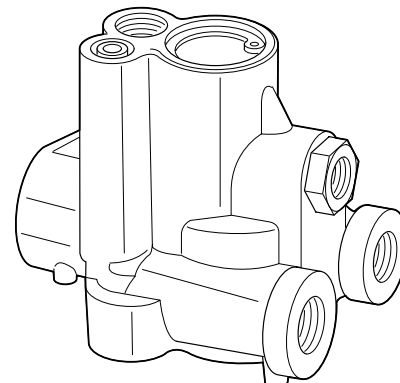
(3) 2 Delivery ports, frame-mounted with bracket, for use with 2 type-30 chambers. 300214
(Once limited stock on hand is depleted, replacement part is 300215, 2 pipe plugs required.)

(4) 2 Delivery ports, 3/4" NPT tank-mounted, for use with 2 type-30 chambers. 300192
(Once limited stock on hand is depleted, replacement part is 300193, 2 pipe plugs required.)

Note: Relay valve or modulator valves may be serviced independently.



1



2

Spring Brake Control Valves

(1) TEV (Spring Brake Priority) 300251

(2) STEV (Service Brake Priority) 300252

Trailer Diagnostic Labels

Bendix Trailer ABS

Part 1-Configuration	Part 2-Fault Status
1 2s-1m	1 System OK
2 2s-2m	2 Sensor A Fault**
3 4s-2m Side Control	3 Sensor B Fault**
4 4s-2m Air Control	4 Sensor C Fault**
	5 Sensor D Fault**
	6 Valve A Fault
	9 Valve B Fault
	11-14 Internal ECU
	12 Low Voltage

Notes:
* 4s-2m Air Control requires unique part No. ECU
** Long Blink on final pulse indicates air gap fault
*** Vehicle must be driven to turn warning light off after sensor fault

Example:
A 1-3 code indicates a 2s-1m system with a fault associated with sensor B

1

Pause

2

3

FULL FEATURE SYSTEMS

BASIC SYSTEM

Trailer Harness
User supplied Grounding Jumper

To Read Fault Codes:

1. Apply power to trailer (key switch or brake pedal).
2. Short pins "A" and "E" on trailer diagnostic port or apply ground at the bullet connector for at least 2 seconds and release.
3. Observe trailer ABS warning light and record blink code.
4. Refer to Blink code chart for description.

To Clear Fault Codes:

1. Remove power.
2. Short pins "A" and "E" on trailer diagnostic port or apply ground at the bullet connector.
3. Apply power to trailer for at least 2 seconds. (key switch or brake pedal).
4. Remove the short or ground from step 2.
5. Read fault codes and verify that faults are cleared***.

For assistance: 1-800-AIR-BRAKE

Trailer Diagnostic Label - Gen 4

Formerly 300275 5011261

Bendix Trailer ABS

Trailer Pin	Trailer Label	Trailer Description
1	Sensor A	Short circuit to ground
2	Sensor B	Short circuit to ground
3	Sensor C	Short circuit to ground
4	Sensor D	Short circuit to ground
5	Valve A	Short circuit to ground
6	Valve B	Short circuit to ground
7	Valve C	Short circuit to ground
8	Valve D	Short circuit to ground
9	Valve E	Short circuit to ground
10	Valve F	Short circuit to ground
11	Valve G	Short circuit to ground
12	Valve H	Short circuit to ground
13	Valve I	Short circuit to ground
14	Valve J	Short circuit to ground
15	Valve K	Short circuit to ground
16	Valve L	Short circuit to ground
17	Valve M	Short circuit to ground
18	Valve N	Short circuit to ground
19	Valve O	Short circuit to ground
20	Valve P	Short circuit to ground
21	Valve Q	Short circuit to ground
22	Valve R	Short circuit to ground
23	Valve S	Short circuit to ground
24	Valve T	Short circuit to ground
25	Valve U	Short circuit to ground
26	Valve V	Short circuit to ground
27	Valve W	Short circuit to ground
28	Valve X	Short circuit to ground
29	Valve Y	Short circuit to ground
30	Valve Z	Short circuit to ground

STANDARD SYSTEM

BASIC SYSTEM

Trailer Harness
User supplied Grounding Jumper

To Read Fault Codes:

1. Apply power to trailer (key switch or brake pedal).
2. Jump pins "A" and "E" on the trailer diagnostic port or apply ground at the bullet connector for at least 2 seconds and release.
3. Observe trailer ABS warning light and record blink code.
4. Refer to blink code chart for description.

To Clear Fault Codes:

1. Remove power.
2. Jump pins "A" and "E" on the trailer diagnostic port or apply ground at the bullet connector.
3. Apply power to trailer (key switch or brake pedal).
4. Remove the jumper or ground from step 2 at least 2 seconds after applying power.
5. Read fault codes and verify that faults are cleared.

For assistance: 1-800-AIR-BRAKE

Trailer Diagnostic Label - Gen 5

Formerly 300381 5011262

SENSOR CONNECTION

HARNESS CONNECTION



Wheel End Speed Sensor Extension Harnesses

3.3 ft. (1.0 m.)	300257
6.6 ft. (2.0 m.)	300258
9.8 ft. (3.0 m.)	300259
13.2 ft. (4.0 m.)	300260

SENSOR CONNECTION

ECU CONNECTION



**Wheel End Speed Sensor Extension Harnesses
with One End Underminated**

6.6 ft. (2.0 m.)	300090
9.8 ft. (3.0 m.)	300091
16.4 ft. (5.0 m.)	300092
26.3 ft. (8.0 m.)	300093
32.8 ft. (10.0 m.)	300094
39.4 ft. (12.0 m.)	300095

VALVE CONNECTION

ECU CONNECTION



**Threaded Modulator Valve Extension Harnesses
with One End Underminated**

3.3 ft. (1.0 m.)	300113
9.8 ft. (3.0 m.)	300096
13.1 ft. (4.0 m.)	300097
19.7 ft. (6.0 m.)	300098
25.1 ft. (7.6 m.)	300384
29.5 ft. (9.0 m.)	300099
39.4 ft. (12.0 m.)	300100
49.2 ft. (15.0 m.)	300101

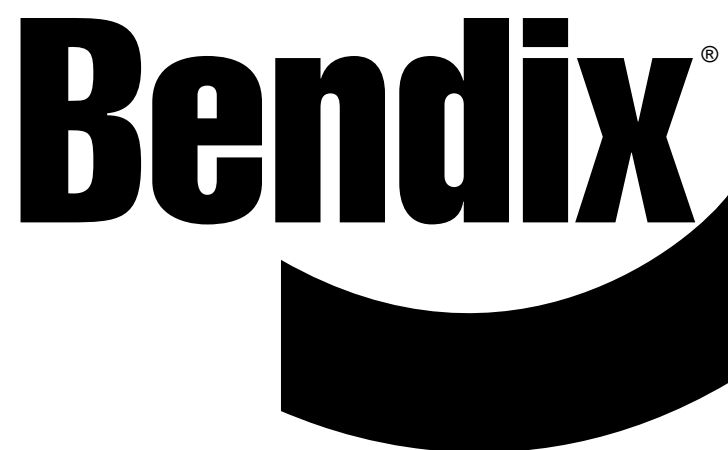
VALVE CONNECTION

ECU CONNECTION



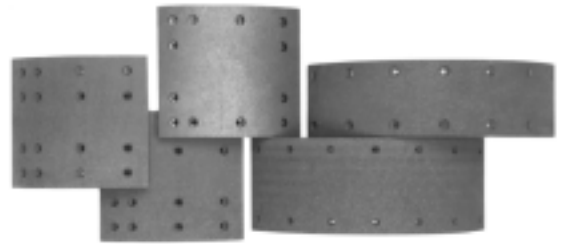
**Bayonet Modulator Valve Extension Harnesses with
One End Underminated**

25.1 ft. (7.6 m.)	300385
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Bendix offers four grades of brake linings to suit various applications and needs. All meet or exceed the requirements of F.M.V.S.S. #121.

These premium grade materials, Bendix Premium-BXP and Bendix Heavy Duty-BXHD are rated for 20,000 lb. and 23,000 lb. axles respectively. These high performance products deliver a long lining life while minimizing drum wear.



The Bendix Valu-BXV and Bendix Standard-BXS are rated for 20,000 lb. axles and provide solid stopping power.

FMSI Number to Bendix Piece Number

Axle Rating	FMSI No.	Bendix Value 20,000 lb.	Bendix Standard 20,000 lb.	Bendix Premium 20,000 lb.	Bendix Heavy Duty 23,000 lb.
	4311G	BXV-FF-4311G	BXS-FF-4311G	BXP-EF-4311G	BXHD-GF-4311G
	4311J	BXV-FF-4311J	BXS-FF-4311J	BXP-EF-4311J	BXHD-GF-4311J
	4515C	BXV-FF-4515C	BXS-FF-4515C	BXP-EF-4515C	BXHD-GF-4515C
	4515E	BXV-FF-4515E	BXS-FF-4515E	BXP-EF-4515D	BXHD-GF-4515E
	4702D	-	-	BXP-EF-4702D	-
	4707D	BXV-FF-4707D	BXS-FF-4707D	BXP-EF-4707D	BXHD-GF-4707D
	4709D	BXV-FF-4709D	BXS-FF-4709D	BXP-EF-4709D	BXHD-GF-4709D
	1308DTT	-	-	BXP-EF-1308DTT	-

Dimensional Data

FMSI No.	Drum Dia.	Width	Thickness	Length	No. Pieces	Rivets	
						Size	No.
4311G	16.5	7	.750	8.50	8	10-8	80
4311J	16.5	7	.750	8.50	8	10-8	112
4515C	16.5	7	.750	8.13 Tapered 8.38	4	10-8	96
4515E	16.5	7	.750	8.13 Tapered 8.38	4	10-8	128
4702D	15	4	.750	7.69 Tapered 7.44	4 4	1/4R	64
4707D	16.5	7	.875	8.42 Tapered 8.23	4 4	1/4R	112
4709D	16.5	7	.875	8.14 Tapered	8	1/4R	112
1308DTT	15	4	.438	16.50 Tapered	4	10-7	56

BRAKE APPLICATION GUIDE

Recommendations for 16.5 in. X 7 in. 'S' Cam Air Brakes

	14000	15000	16000	17000	18000	19000	20000	21000	22000	23000	24000	25000
195A/L 30 Chamber X 6.5 Slack Adjuster					BXV BXS BXP	BXV BXS BXP				BXHD		
180 A/L 30 Chamber X 6.0 Slack Adjuster			BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BX HD	BXHD	BXHD	
165 A/L 30 Chamber X 5.5 Slack Adjuster	BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BX HD	BX HD	BXHD		
144 A/L 24 Chamber X 6.0 Slack Adjuster	BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BXV BXS BXP	BX HD	BX HD	BX HD				

Bendix Premium BXP is the ideal lining for most over-the-road tractor and trailer applications where long life and minimum drum wear / maintenance costs are desired.

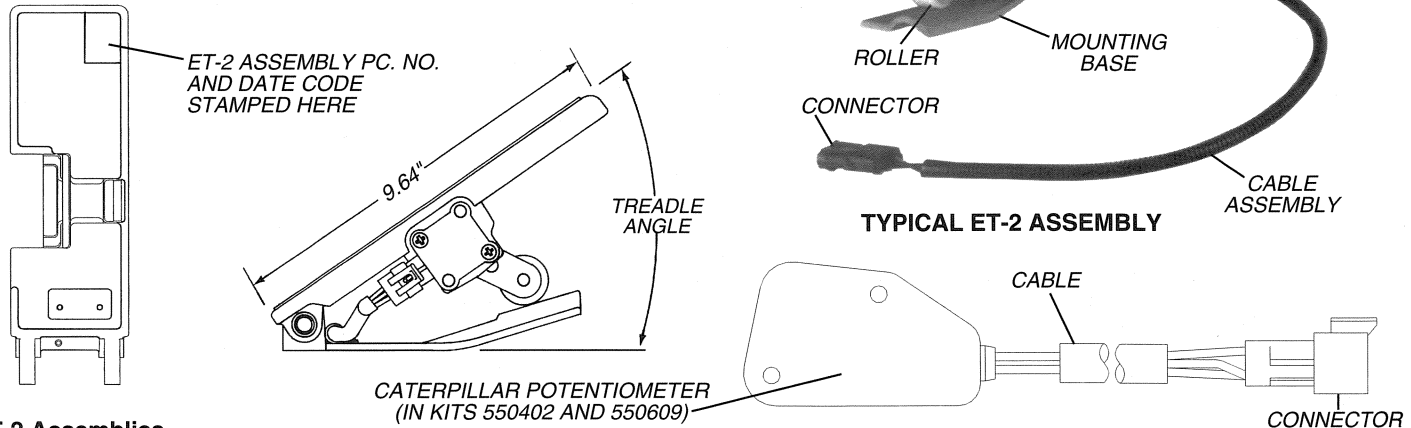
On vehicles with electronically controlled diesel engines, the ET-2 Electronic Treadle provides graduated throttle control by sending an electrical signal to the fuel control system in proportion to pedal travel.

FOR SERVICE/MAINTENANCE INFORMATION, SEE SD-10-4106

Weight - Approx. 3.5 lbs.

Device Code - 4106

VMRS No. - 44-007-047



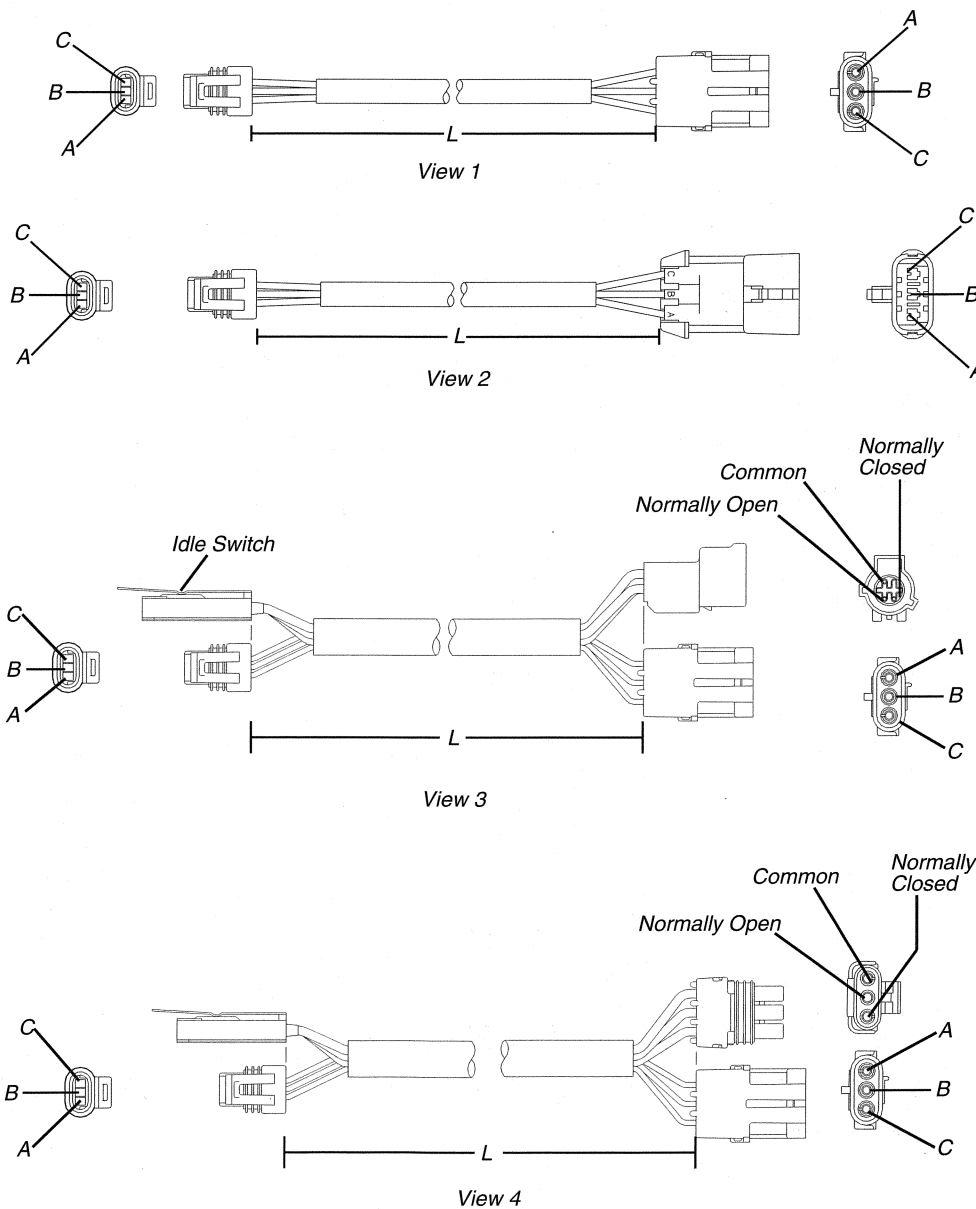
ET-2 Assemblies

O.E. Assembly Pc. No.	Service Replacement Pc. No. (Note 1)	Customer I.D.	Engine	Treadle Angle	Cable Assembly	Potentiometer Kit	Major Rebuild Kit	Mounting Base View
550200	065151	—	CUMMINS CELECT	35	550478	550391	550543	5
550227	065271	MACK 4QB47	MACK V-MAC	35	550226	550390	550394	5
550233	065272	—	DETROIT DDEC	35	550265	550389	550394	5 & 1
550281	065320	PACCAR 1606169	DETROIT DDEC	30	550265	550389	550394	4
550305	065290	FORD F1HT9735AA	CUMMINS CELECT	35	550396	550391	550543	5
550308	065291	FORD FOHS9735AA	DETROIT DDEC	35	550265	550389	550394	5
550344	065308	MACK 4QB47-P2	MACK V-MAC	35	550342	550390	550394	6
550345	065272	MACK 4QB51	DETROIT DDEC	35	550265	550389	550394	5
550378	065419	—	DETROIT DDEC	45	550265	550389	550394	3
550379	065321	PACCAR 1606068	CAT PEEC	30	Included w/Pot. Kit	550402	550403	4
550380	065322	MACK 4QB48	CAT PEEC	35	Included w/Pot. Kit	550402	550403	5
550464	065332	PIERCE 424627	DETROIT DDEC	45	550265	550389	550394	7
550465	065338	—	CAT PEEC	45	Included w/Pot. Kit	550402	550403	7
550482	065381	PACCAR 1606444	CUMMINS CELECT	30	550420	550391	550543	4
550483	065380	MACK 4QB49M	CUMMINS CELECT	35	550420	550391	550543	5
550537	065420	—	CAT PEEC	45	Included w/Pot. Kit	550402	550403	3
550539	065421	—	CUMMINS CELECT	45	550420	550391	550543	3
550546	065320	—	DETROIT DDEC	30	550438	550389	550394	4
550547	065272	—	DETROIT DDEC	35	550438	550389	550394	5
550548	065321	—	CAT PEEC	30	Included w/Pot. Kit	550402	550403	4
550549	065322	—	CAT PEEC	35	Included w/Pot. Kit	550402	550403	5
550551	065431	—	CUMMINS CELECT	30	550524	550391	550543	4
550553	065432	—	CUMMINS CELECT	35	550524	550391	550543	5
550556	065434	MCI/TMC 4L1561	DETROIT DDEC	35	550265	550389	550394	8
550604	065272	OSHKOSH 2021650	DETROIT DDEC	35	550265	550389	550394	5 & 1
550615	065483	PACCAR 160527	'94 CAT PEEC	30	Included w/Pot. Kit	550609	550403	4
550616	065484	—	'94 CAT PEEC	35	Included w/Pot. Kit	550609	550403	5
550695	065332	PIERCE	CUMMINS CELECT	45	550420	550391	550543	7

Note 1 - Service replacement units are supplied without treadle cover and cable assembly.

Cable Assemblies

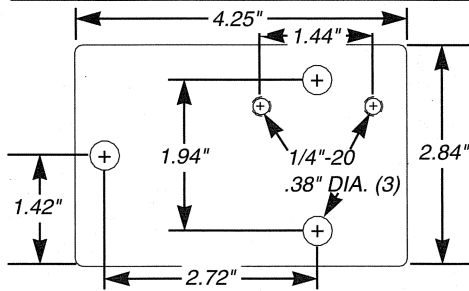
Cable Assy. Pc. No.	View	L"	Pins		
			A	B	C
550226	2	30.0 (+/- .5)	Input (Orange)	Output (Green)	Ground (Black)
550265	1	30.0 (+/- .5)	Ground (Black)	Output (Green)	Input (Orange)
550342	2	36.0 (+/- .5)	Input (Orange)	Output (Green)	Ground (Black)
550396	3	30.0 (+/- .2)	Input (Orange)	Output (Green)	Ground (Black)
550420	4	30 (+/- 2)	Ground (Black)	Output (Green)	Input (Orange)
550438	2	34.0 (+/- .5)	Ground (White)	Output (Black)	Input (Red)
550478	4	30.0 (+/- 2)	Input (Orange)	Output (Green)	Ground (Black)
550524	4	34 (+/- 2)	Ground (Black)	Output (Green)	Input (Orange)



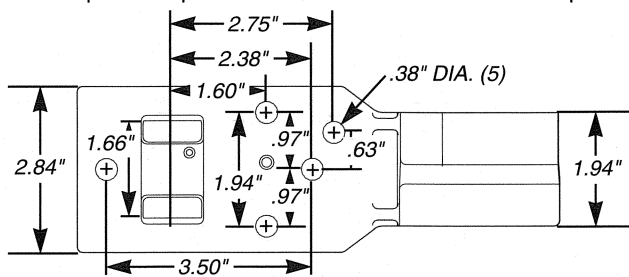
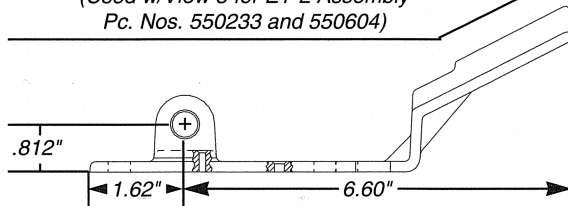
MOUNTING BASE VIEWS

ET-2
ELECTRONIC
TREADLE

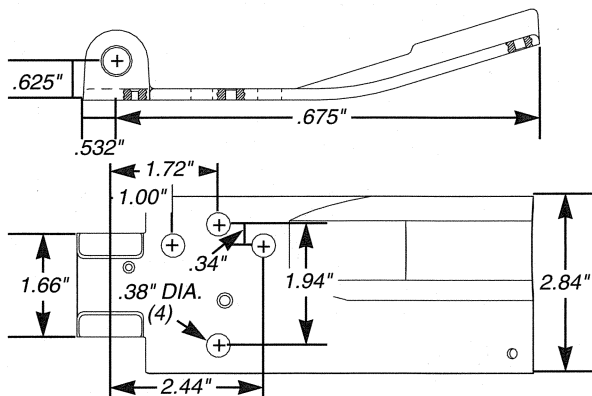
CATALOG
15-A-3



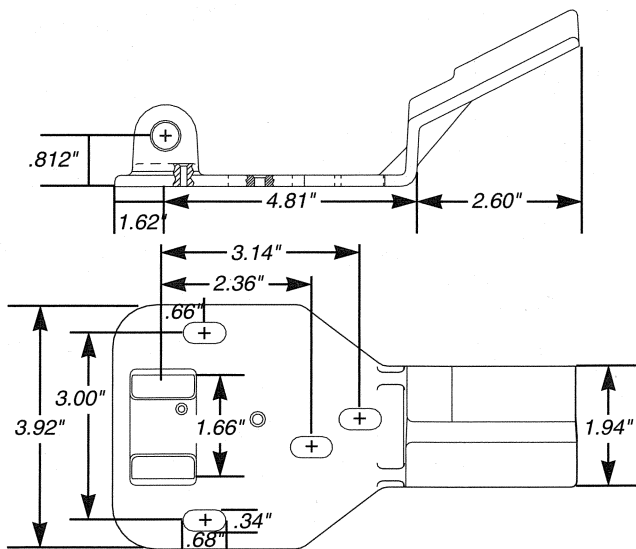
Mounting Base View 1
(Used w/View 5 for ET-2 Assembly
Pc. Nos. 550233 and 550604)



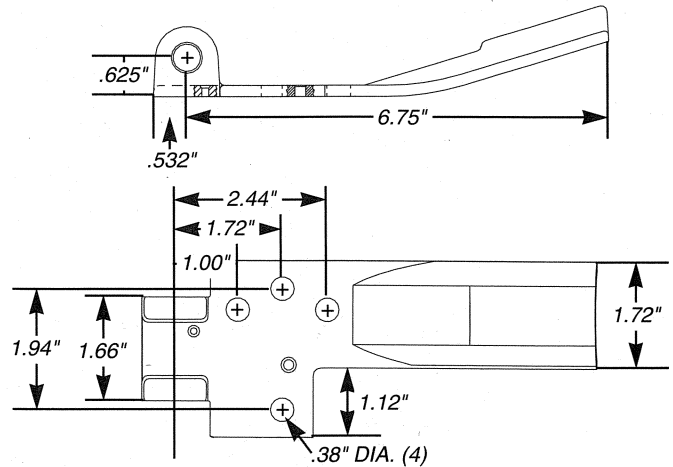
Mounting Base View 3



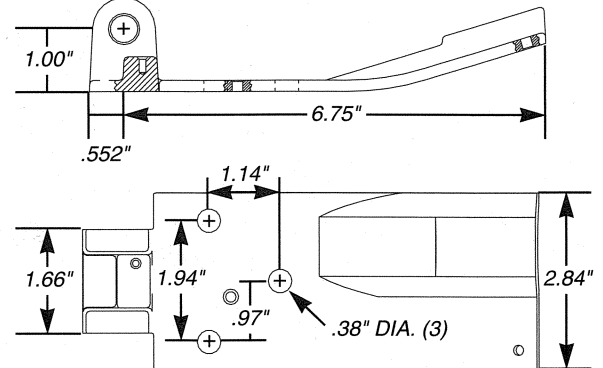
Mounting Base View 5



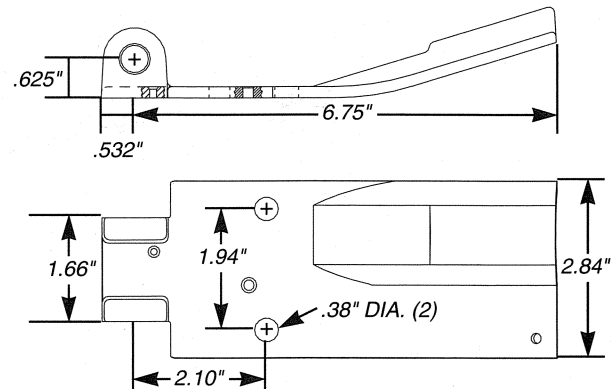
Mounting Base View 7



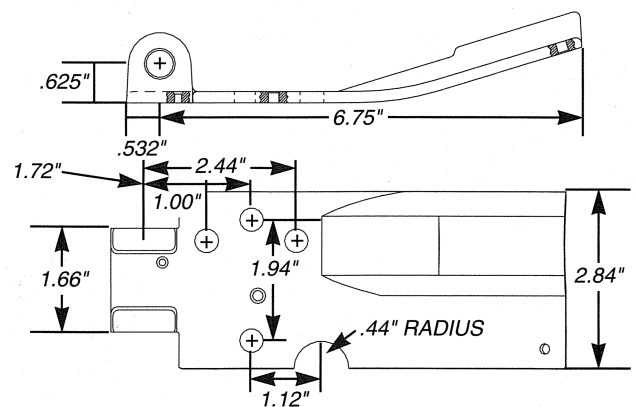
Mounting Base View 2 (Alt. Ford Base)



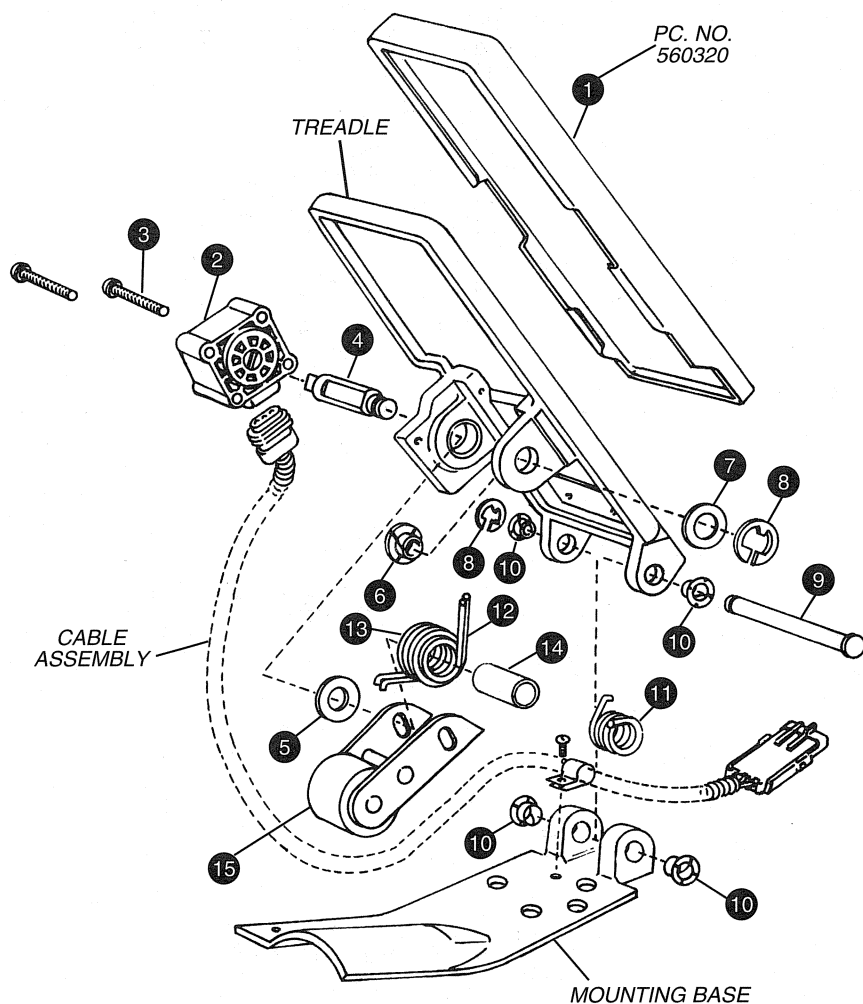
Mounting Base View 4



Mounting Base View 6



Mounting Base View 8



POTENTIOMETER KITS CONSIST OF:

Key No.	Qty.	Description
2	1	Potentiometer
3	2	Sems Screws

PIVOT PIN SPRING KIT 550392
CONSISTS OF:

Key No.	Qty.	Description
8	1	Snap Ring
10	4	Nyliner Bearing (White)
11	1	Pivot Spring

LEVER SHAFT SPRING KIT 550393
CONSISTS OF:

Key No.	Qty.	Description
—	1	Pivot Pin Spring Kit
5	1	Nylon Washer (.520" I.D.)
6	1	Nyler Bearing (Black)
7	1	Nylon Washer (.390" I.D.)
8	1	Snap Ring
12	1	Inner Spring
13	1	Outer Spring
14	1	Spring Support

MAJOR REBUILD KITS
CONSIST OF:

Key No.	Qty.	Description
—	1	Lever Shaft Spring Kit
1	1	Treadle Cover
4	1	Lever Shaft
9	1	Pivot Pin
15	1	Roller Assembly

The ET-S is an engine compartment bulkhead mounted electronic treadle. On electronically controlled diesel engines, the ET-S fulfills the same function as a conventional mechanical throttle. However, rather than transmitting a mechanical force to the engine governor, the ET-S controls engine speed by supplying a variable electrical voltage to the engine's electronic controller.

The main components of the ET-S are: a mounting plate, suspended treadle, potentiometer (variable resistor), actuator body and base. The selected potentiometer, chosen for a specific engine application, provides the electrical link to the engine control system.

For Service Data and Maintenance Information, see SD-15-4111.

WEIGHT approx. 3.7 lbs.

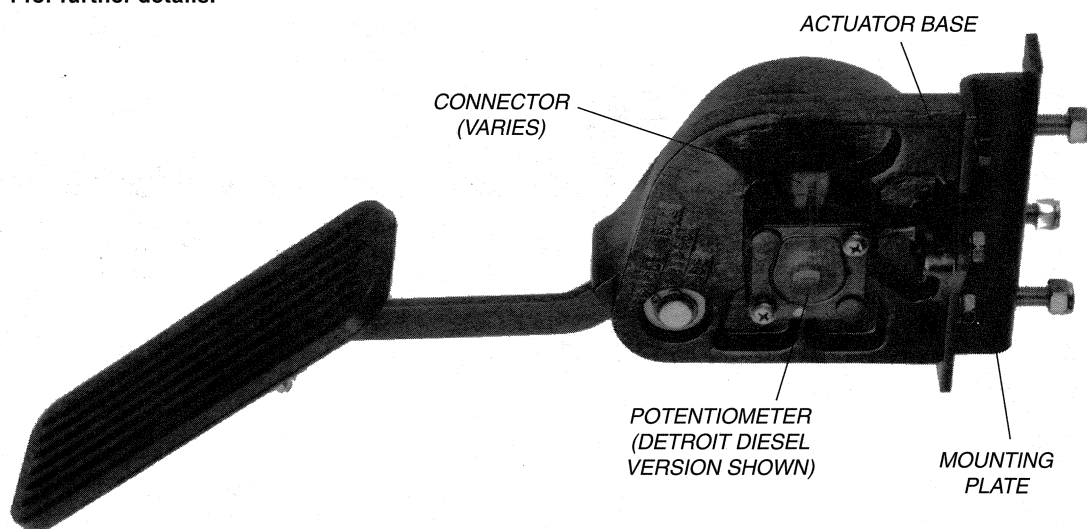
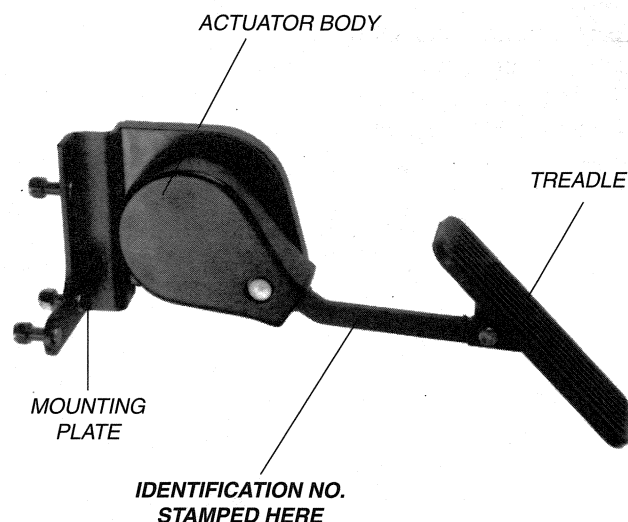
VRMS No. is 44-007-047.

Device Code for the Caterpillar version is 4112.

Device Code for the Cummins version is 4111.

Device Code for the Detroit Diesel Corp. version is 4113.

This treadle is used as part of the BCM-KW module - see Catalog page 98-A-1 for further details.

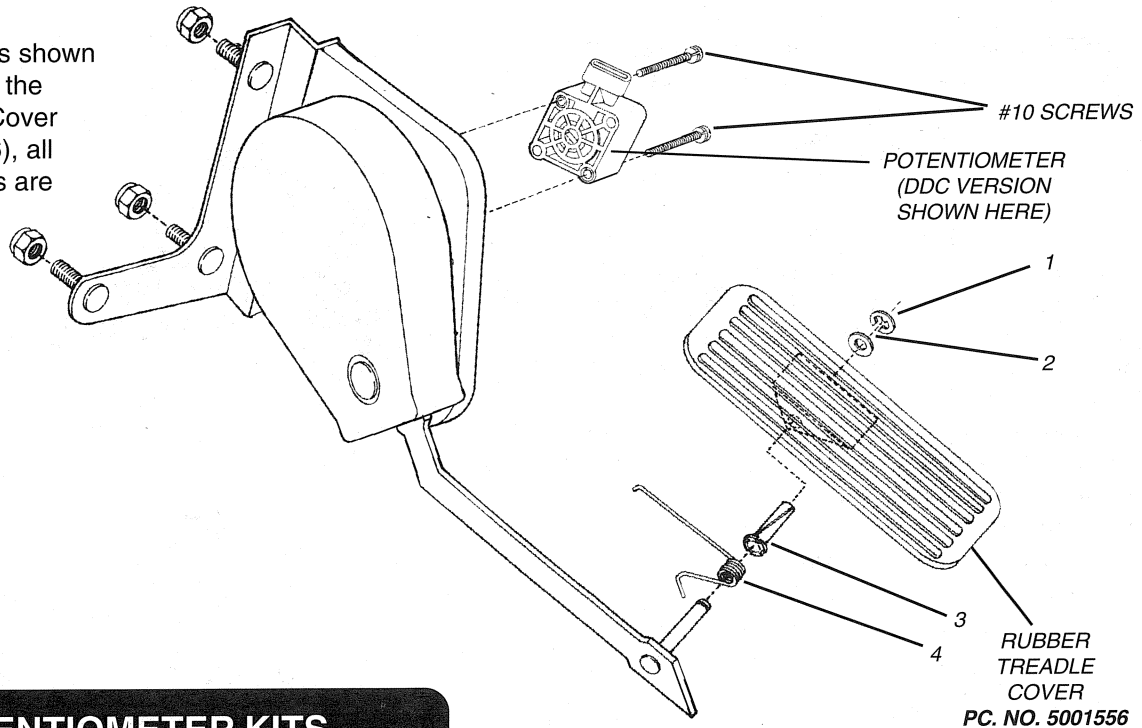


Identification Number (Items in bold are OE Assembly No.s)	Service Replacement Part	Customer I.D. Number	Potentiometer Replacement Kit
5001650 (supersedes 5001550*)	800230	Kenworth Q21-1005-1	5002356 (Caterpillar)
5001649 (supersedes 5001551*)	800231	Kenworth Q21-1005-2	5002357 (Cummins)
5001651 (supersedes 5001552*)	800232	Kenworth Q21-1005-3	5002358 (DDC)

* These identification numbers are found on early release models of the ET-S.

NOTE

Except for the Kits shown on this page, and the Rubber Treadle Cover (Pc. No. 5001556), all other components are non-serviceable.

**POTENTIOMETER KITS****KIT 5002356**

Cummins
Potentiometer/Switch

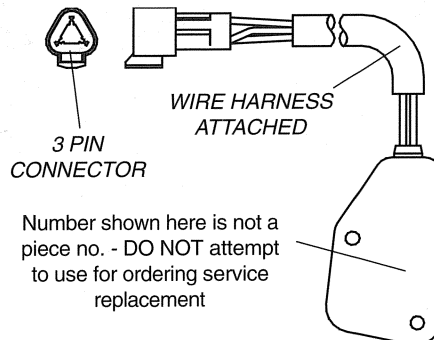
6 PIN
CONNECTOR

Number shown here is not a piece no. - DO NOT attempt to use for ordering service replacement

[KIT INCLUDES TWO #10 CAP SCREWS]

KIT 5002357

Caterpillar Position Sensor



Number shown here is not a piece no. - DO NOT attempt to use for ordering service replacement

[KIT INCLUDES TWO #10 CAP SCREWS]

KIT 5002358

DDC Potentiometer

3 PIN
CONNECTOR

Number shown here is not a piece no. - DO NOT attempt to use for ordering service replacement

[KIT INCLUDES TWO #10 CAP SCREWS]

TREADLE SPRING KIT

Pc. No. 5002359

THIS KIT SERVICES ALL ASSEMBLIES
(Refer to Figure at the top of this page)

KEY	ITEM	QTY
1	RETAINING RING	1
2	NYLON WASHER	1
3	NYLINER BEARING	1
4	TREADLE SPRING	1

The ET-S2 is an engine compartment bulkhead mounted electronic treadle. On electronically controlled diesel engines, the ET-S2 fulfills the same function as a conventional mechanical throttle. However, rather than transmitting a mechanical force to the engine governor, the ET-S2 controls engine speed by supplying a variable electrical voltage to the engine's electronic controller.

The main components of the ET-S2 are: a mounting plate, suspended treadle, potentiometer (variable resistor), actuator body and base. The selected potentiometer, chosen for a specific engine application, provides the electrical link to the engine control system.

For Service Data and Maintenance Information, see SD-15-4111.

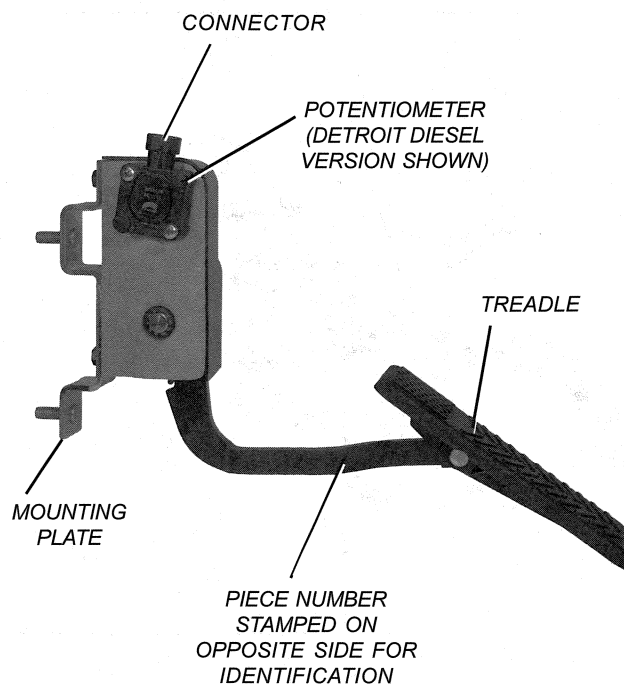
WEIGHT approx. 2.9 lbs.

VRMS No. is 44-007-047.

Device Code for the Caterpillar version is 4115.

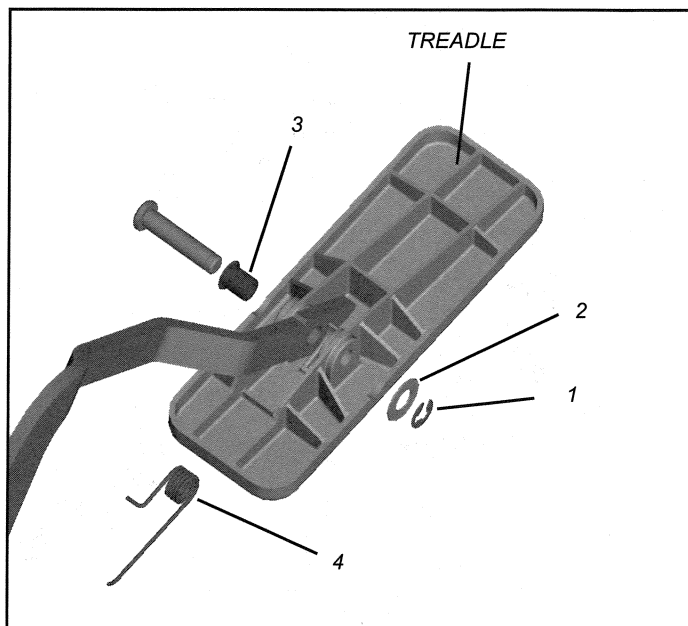
Device Code for the Cummins version is 4116.

Device Code for the Detroit Diesel Corp. version is 4117.

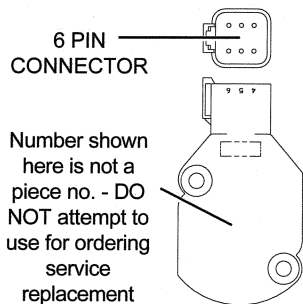


O. E. Piece Number (Use for Identification)	Service Replacement Part	Treadle & Spring Kit	Potentiometer Replacement Kit
5005131	800606	5006085	5002356 (Cummins)
5005133	800607	5006085	5006086 (DDC)
5005135	800608	5006085	5002357 (Caterpillar)

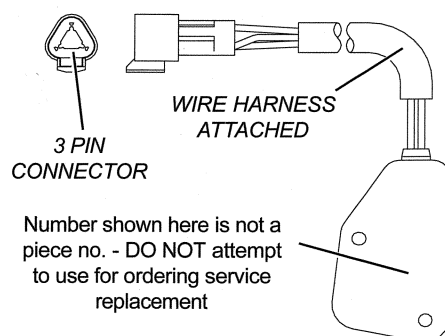
SEE PAGE 15-B-5 FOR RETROFIT KITS

**TREADLE KIT - SERVICES ALL ASSEMBLIES**

KEY	ITEM	QTY
1	RETAINING RING	1
2	NYLON WASHER	1
3	NYLINER BEARING	1
4	TREADLE SPRING	1

POTENTIOMETER KITS**KIT 5002356**Cummins
Potentiometer/Switch[KIT INCLUDES TWO #10 CAP
SCREWS]**KIT 5002357**

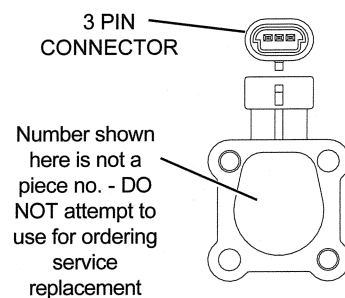
Caterpillar Position Sensor

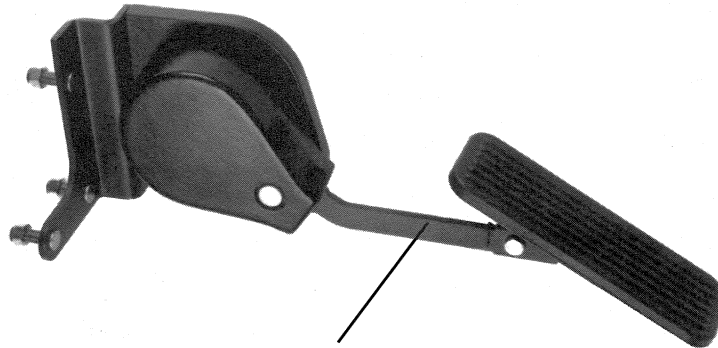


[KIT INCLUDES TWO #10 CAP SCREWS]

KIT 5006086

DDC Potentiometer

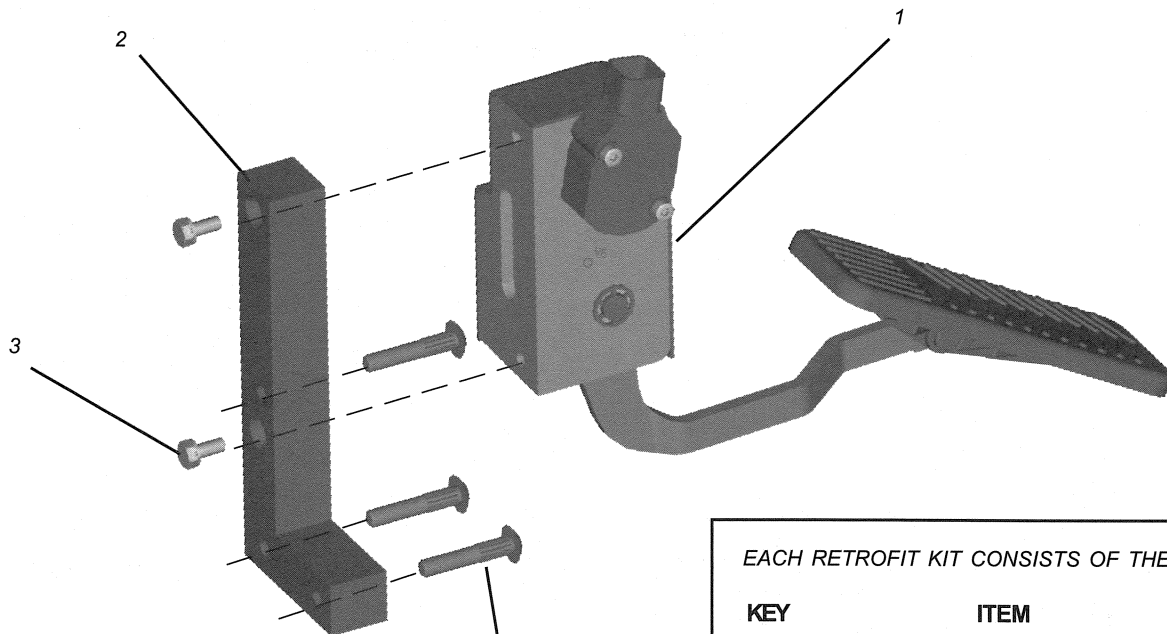
[KIT INCLUDES TWO #10 CAP
SCREWS]



ET-S IDENTIFICATION
NUMBER STAMPED HERE

Retrofit Kits			
ET-S (obsolete)		ET-S2 Retrofit Kit	Engine
5001649	(5001550*)	5006222	Cummins
5001650	(5001551*)	5006224	Caterpillar
5001651	(5001552*)	5006223	DDC

*These identification numbers are found on early release models of the ET-S.



STUDS PRE-ASSEMBLED
IN SPACER BLOCK (2)
*LOCKWASHERS (4) AND NUTS (5)
NOT SHOWN

EACH RETROFIT KIT CONSISTS OF THE FOLLOWING

KEY	ITEM	QTY
1	ET-S2 ASSEMBLY	1
2	SPACER BLOCK & STUDS	1
3	1/4" MACHINE SCREW	2
4*	LOCKWASHERS	3
5*	NUT	3